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1988 - 1989 O R S A R

Ontario road safety annual report



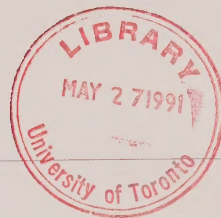


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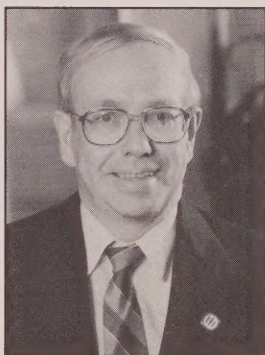
**'88 / '89 ontario
road safety
annual
report**

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minister's message



This edition of the Ontario Road Safety Annual Report incorporates data from 1988 and 1989.

As a result of changes in the reporting format used by police forces in Ontario, our knowledge of accident statistics has been greatly improved. The data in a number of the tables have been refined and reflect a more accurate picture of

road safety in the province of Ontario. It is hoped that this knowledge will allow us to implement accident reduction strategies that will create a safer driving environment in Ontario.

As our population grows and as the number of licensed drivers continues to expand, the number of vehicles on Ontario roads increases. Although the number of collisions as a percentage of the population has not increased, the number of accidents continues to rise.

As highways are the backbone of Ontario's transportation system, a safe and efficient road system is a prerequisite for Ontario's continued prosperity.

The issue of road safety is an area of deep concern to me. Road trauma exacts a horrible toll in fatalities, crippling injuries, stress on family and friends, and resultant direct and indirect economic costs. There are still a number of areas requiring improvement to create a safer road user environment for all.

Seat belt usage continues to be the single most effective road safety measure. The risk of serious injury or death to a front seat occupant is reduced by 40 to 50 per cent through the proper use of a lap and shoulder belt.

The correct use of approved child restraints is also an area of concern. Our children deserve adequate protection when travelling in automobiles.

As well, young people continue to be over-represented in collision statistics. My ministry is continuing to monitor this situation and hopes to be able to implement improvements in the near future.

Although alcohol involvement in accidents is declining, it is still a major factor in motor vehicle collisions in Ontario, particularly in fatal and personal injury accidents. Drinking and driving is a dangerous combination. Drinking drivers are dangerous to other road users because alcohol impairs both the intellectual and physical abilities required in driving. Drinking drivers also pose a danger to themselves because, in an accident, the presence of alcohol in the body depresses the ability of the central nervous system and the circulatory system to respond to trauma.

Since we prize our safety and mobility, we must concentrate on improving the way in which we use our highways. Driver attitude is an additional and ongoing problem. We all need to consider our use of the public roadway as a privilege, and the act of driving as a co-operative activity in which we share the road with all other users.

It is every road user's duty, whether one is a driver, pedestrian, passenger or operator of any other vehicle, to use the highway in a prudent and responsible manner at all times.

Ed Philip
Minister of Transportation

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**ontario
road safety
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1

overview



1a. synopsis

In 1988, approximately 6.7% of the drivers in Ontario and 7.6% of vehicles in the province were involved in accidents.

There were 1,237 people fatally injured in motor vehicle accidents in the province, while 118,158 people suffered some degree of personal injury. Of the fatally injured, 563 were drivers (not including motorcycle drivers), while 351 were passengers, 186 were pedestrians, 76 were motorcycle drivers, and 13 were motorcycle passengers. Other classes of road users accounted for 60 deaths.

In total, there were 228,398 accidents involving 427,107 vehicles. Of all accidents, 1,076 resulted in one or more people being killed, while in 76,724 accidents at least one person was injured.

The 16 - 20 year old age group was the age category which had the highest number of deaths, with 191. The 21 - 24 year old age group had the second highest number, with 156. Of the total number of fatalities, 113 were children under the age of 16.

In terms of alcohol involvement, tests for the presence of alcohol among drivers who were killed showed that 176 (29.4%) were legally impaired and 77 (12.9%) had consumed alcohol but were not found to be legally impaired.

Selected Statistics

Total Reportable Accidents	228,398
Total Drivers Involved in Accidents	407,592
Total Vehicles Involved in Accidents	427,107
Fatal Accidents	1,076
Personal Injury Accidents	76,724
Property Damage Accidents	150,598
Persons Killed	1,237
Drivers Killed	640
Drivers Killed (Impaired or Had Been Drinking)	253
Passengers Killed	351
Pedestrians Killed	186
Other Road Users Killed	60
Persons Injured	118,158
Estimated Ontario Population (1988)	9,439,600
Licensed Drivers	6,118,112
Registered Motor Vehicles	5,872,739
Estimated Vehicle Kilometres Travelled (in millions)	72,345
Number of Persons Killed in Motor Vehicle Accidents per 100,000 People in Ontario	13.1
Number of Persons Killed in Motor Vehicle Accidents per 100 Million Kilometres Travelled	1.7
Accident Rate per 100 Million Kilometres Travelled	315.7
Fatal Accident Rate per 100 Million Kilometres Travelled	1.5

1b. selected characteristics of motor vehicle accidents in 1988

Note: *The data for 1988 includes changes which were made in the accident reporting format which is used by the police forces in Ontario, and which forms the basis for the accident statistics compiled by the province of Ontario. This has accomplished two things. It has given us more comprehensive information about the road user environment, which will allow us to implement more effective accident reduction strategies; and it has resulted in changes in the ways in which the data are compiled. As a result, some of the information may not be directly comparable to that of previous years.*

Persons Killed and Injured

The number of persons killed in traffic accidents in 1988 was 1,237. This is a slight increase over the number of fatalities reported in the previous year, however, it remains within the range first established in 1982. The number of fatalities per registered driver has also remained fairly stable over the same period.

In 1988, the number of personal injuries declined to 118,158. The greatest decrease in reported injuries occurred in the minimal injury category.

Non-occupants, such as pedestrians, bicyclists, motorcyclists, etc., comprised approximately 8.4% of those involved in fatal and personal injury accidents. Of the non-occupants who were involved in accidents, about 1.6% were killed, compared to 0.4% of vehicle occupants (drivers and passengers). 79.5% of non-occupants involved in accidents suffered injuries, compared to 48% of vehicle occupants who were involved in personal injury or fatal accidents. Only 18.8% of non-occupants involved in accidents escaped injury. The fatality rate per 100,000 population has dropped slightly to 13.1, and is broken down into an occupant fatality rate of 9.68 and a non-occupant fatality rate of 3.42.

Road User Age

Young drivers continue to be over-represented in motor vehicle accidents relative to their share of the licensed driver population. In 1988, drivers aged 24 years or younger

comprised 15.6% of licensed drivers but 26.6% of drivers involved in accidents. In contrast, 4.8% of drivers 65 years of age or older (10% of licensed drivers) were involved in accidents.

Although older drivers are under-represented in all motor vehicle accidents, they were over represented in driver fatalities. In 1988, 12.8% of drivers killed were over 65 years of age. Older pedestrians were also over-represented in accidents. As well, the accident rate per kilometre travelled is highest for drivers aged 75 years and older and for those aged 16 to 24 years of age.

Driver Action

Drivers who were driving properly at the time of their collision continue to average around 44%. Failure to yield the right of way, speed too fast, loss of control and following too closely continue to be the most frequently reported driver errors in all accidents. In fatal accidents, speed too fast was the leading driver action, and was a factor in 17.5% of all fatal accidents in 1988.

Alcohol Involvement

Alcohol involvement continued to be the leading non-normal driver condition reported in all accidents. In 1988, the actual number of alcohol involved drivers in accidents decreased by 3.2%. However, alcohol involvement was reported in 42% of the drivers killed in 1988 (up from 40.6% in 1987), although alcohol involvement has shown a decrease over the last five years. Of the drivers involved in fatal accidents, 23% showed alcohol involvement, as well as 19.9% of the pedestrians who were killed and 9% of the pedestrians who were injured.

1c.

the health
perspective

Hospital Emergency Departments receive most people injured in motor vehicle accidents. The majority of those have sustained minimal or minor injuries and are therefore released without being admitted to hospital for in-patient care. However, people suffering major and severe injuries are admitted as in-patients. Detailed statistics are captured for in-patients and described below.

Between April 1, 1987 and March 31, 1988, there were 13,774 acute (short term) hospital admissions related to motor vehicle accidents.

The 13,774 acute hospital admissions resulted in 142,295 hospital days of stay during the fiscal year 1987-88, making the average stay per admission 10.3 hospital days.

According to data provided by the hospitals 5,845 patients underwent surgery in the course of their hospital treatment

and 289 patients died in the hospital subsequent to their admission for in-patient care.

Ninety-five per cent of those hospitalized were Ontario residents, 2% were Quebec residents, and the rest of the patients were residents of other Canadian provinces and the United States.

Selected Diagnoses of Motor Vehicle Accident Injuries Hospitalized in Ontario, 1987/88

Selected Diagnoses	Hospital Admissions	Hospital Days of Stay
Fracture of skull	817	7,831
Fracture of neck and trunk	2,034	30,961
Fracture of upper limb	1,011	7,519
Fracture of lower limb	2,081	32,659
Dislocation, sprains and strains	739	4,212
Intracranial injury, excluding those with skull fracture	2,811	25,144
Internal injury of chest, abdomen and pelvis	761	8,872
Open wound of head, neck and trunk	568	1,993
Open wound of upper limb	80	423
Open wound of lower limb	160	1,830
Other injuries, burns and traumatic complications	2,712	20,851
Total Admissions and Days	13,774	142,295

Selected Surgical Procedures for Motor Vehicle Accident Injuries Hospitalized in Ontario, 1987/88

Selected Procedures	Hospital Admissions	Hospital Days of Stay
Operations on skull, brain and cerebral meninges	253	7,948
Operations on spinal cord and canal structures	85	1,821
Operations on nose, mouth and pharynx	145	775
Operations on chest wall, pleura, mediastinum and diaphragm	122	1,332
Operations on bone marrow and spleen	156	3,094
Operations on kidney	173	1,554
Operation on facial bones and joints	249	2,256
Reduction of fracture and dislocation	2,402	35,690
Repair and plastic operations on joint structures	213	3,728
Operations on skin and subcutaneous tissue	1,009	6,701
Other surgical procedures	1,038	17,042
Sub-total of surgical admissions and days	5,845	81,941
Non-surgical admissions and procedures	7,929	60,354
Total Admissions and Days	13,774	142,295

2

the people

In 1988, there were 6,118,112 drivers licensed in the Province of Ontario, an increase of 140,000 over the previous year. In 1988, 1,237 people died in traffic accidents in Ontario, and this figure has remained fairly stable since 1982.

During the year, 113 children under the age of 16 died

in motor vehicle accidents. This includes 47 automobile passengers and 43 pedestrians. The number of persons injured has decreased slightly to 118,158. The number of accidents in which alcohol involvement was a factor continues to show a small decline.



2a. people in accidents

Table 2.1 Category of Involved Person by Severity of Injury in Fatal and Personal Injury Accidents 1988

Category of Involved Person	Severity of Injury					Total
	None	Minimal	Minor	Major	Fatal	
Driver	68,181	36,776	22,207	4,356	563	132,083
Passenger*	41,999	21,659	14,822	2,676	350	81,506
Pedestrian	161	2,222	3,022	1,100	186	6,691
Cyclist	69	2,120	1,831	343	43	4,406
Cyclist Passenger	15	16	12	6	0	49
All Terrain Vehicle Driver	2	9	16	18	2	47
All Terrain Vehicle Passenger	1	2	5	1	0	9
Snow Vehicle Driver	11	14	26	20	0	71
Snow Vehicle Passenger	7	5	4	5	0	21
Motorcycle Driver	209	1,350	1,757	759	76	4,151
Motorcycle Passenger	91	229	305	132	13	770
Moped Driver	3	17	12	7	1	40
Moped Passenger	5	0	1	0	0	6
Hanger On	41	34	45	17	1	138
Other	3,098	118	64	18	2	3,300
Total	113,893	64,571	44,129	9,458	1,237	233,288

* Includes bus passengers

Due to a change in the method of tabulating accident statistics, this table excludes the uninjured victims involved in property damage only accidents

Of the 118,158 injuries recorded, 108,700, or 92%, were minimal or minor in nature.

Figure 2.1 Persons Killed 1979 - 1988

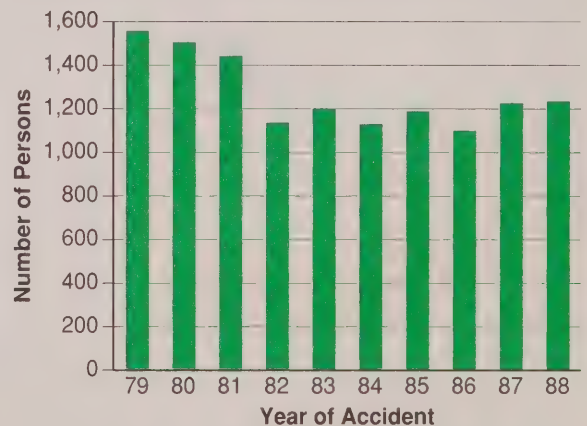


Table 2.2 Category of Persons Killed by Age Groups 1988

Category of	Age Groups																Total
Persons	0-4	5-9	10-15	16	17	18	19	20	21-24	25-34	35-44	45-54	55-64	65-74	75+	UK	
Driver	0	1	1	6	13	27	18	15	74	138	90	53	54	41	31	1	563
Passenger*	12	13	22	10	10	14	18	14	39	69	29	22	26	34	19	0	351
Pedestrian	17	13	13	4	2	4	1	2	11	19	22	12	19	20	27	0	186
Cyclist	1	5	10	1	1	1	2	3	5	5	4	0	0	2	2	1	43
Cyclist Passenger	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ATV Driver	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
ATV Passenger	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Snow Vehicle Driver	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Snow Vehicle Passenger	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Motorcycle Driver	0	0	0	2	4	6	3	6	22	22	6	2	2	0	0	1	76
Motorcycle Passenger	0	0	1	1	0	1	0	2	5	2	0	0	0	0	0	1	13
Moped Driver	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Moped Passenger	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	31	33	49	24	30	53	42	42	156	255	151	89	101	98	79	4	1,237

*Includes one hanger on

The age categories for those under the age of 16 have been further broken down in this year's table. Of those people who died in motor vehicle accidents, 304 of those who were killed, or 24.6%, were under the age of 20, including 113 children under the age of 16 (9.1%).

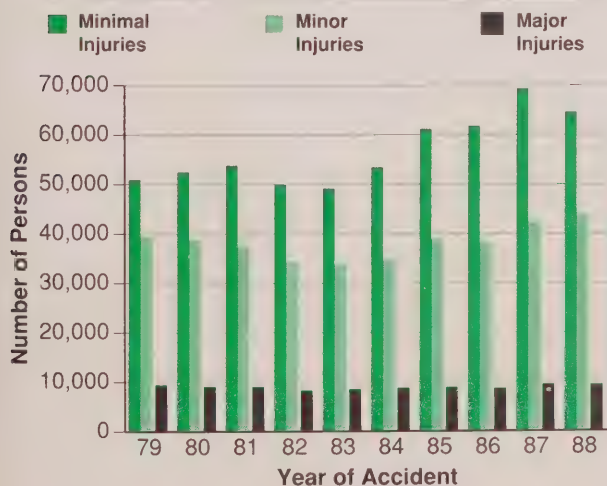
Figure 2.2 Persons Injured and Severity of Injuries 1979 - 1988**Figure 2.3 Per Cent of Total Persons Killed by Age 1988**

Table 2.3 Category of Persons Injured by Age Groups 1988

Category of	Age Groups																Total
Persons	0-4	5-9	10-15	16	17	18	19	20	21-24	25-34	35-44	45-54	55-64	65-74	75+	UK	
Driver	5	8	75	917	1,615	2,008	2,177	2,088	9,125	18,233	12,456	7,026	4,527	2,190	810	79	63,339
Passenger*	1,836	2,420	3,484	1,335	1,639	1,680	1,494	1,374	4,984	7,045	3,880	2,825	2,370	1,566	774	522	39,228
Pedestrian	264	733	815	149	174	148	146	111	507	965	632	460	457	384	321	78	6,344
Cyclist	24	484	1,157	248	223	182	153	138	558	623	186	72	52	26	17	151	4,294
Cyc. Passenger	6	8	13	2	1	0	0	1	0	0	0	1	1	0	1	0	34
ATV Driver	0	3	16	5	4	5	2	0	1	2	1	2	1	0	0	1	43
ATV Passenger	0	2	3	2	1	0	0	0	0	0	0	0	0	0	0	0	8
Snow Vehicle Driver	0	0	9	6	4	9	3	5	9	9	2	1	2	1	0	0	60
Snow Vehicle Pass.	0	2	2	2	1	1	2	1	2	1	0	0	0	0	0	0	14
Motorcycle Driver	0	0	31	135	261	366	369	330	997	919	317	93	29	12	1	6	3,866
Motorcycle Passenger	4	10	46	52	71	75	59	67	138	103	29	9	3	0	0	0	666
Moped Driver	0	0	0	0	2	2	1	0	4	7	5	5	3	3	4	0	36
Moped Passenger	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Other	4	2	10	1	0	1	4	3	17	48	31	29	14	9	11	41	225
Total	2,143	3,672	5,661	2,854	3,996	4,477	4,410	4,118	16,342	27,955	17,539	10,524	7,459	4,191	1,939	878	118,158

*Includes 96 hangers on.

Figure 2.4 Per Cent of Total Persons Injured by Age 1988

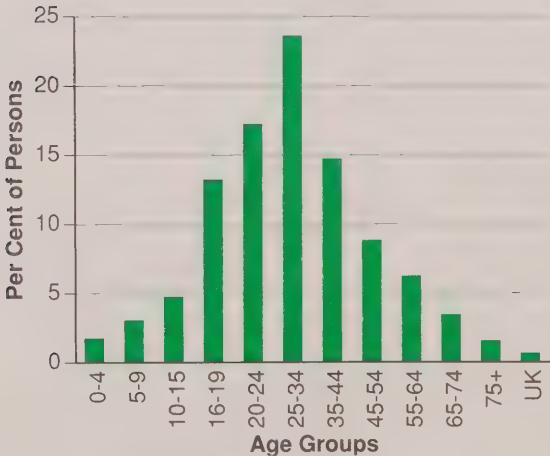


Table 2.4 Sex of Driver by
Class of Accident 1988

Sex of Driver	Class of Accident			Total
	Fatal	Personal Injury	Property Damage	
Male	1,427	96,802	176,748	274,977
Female	318	41,754	69,110	111,182
Unknown	25	3,776	17,632	21,433
Total	1,770	142,332	263,490	407,592

While male drivers comprise 55% of the driver population, they account for 67.5% of the drivers involved in motor vehicle accidents. Male drivers were involved in 68% of personal injury accidents, and 80% of the fatal accidents.

Table 2.5 Driver Condition by
Class of Accident 1988

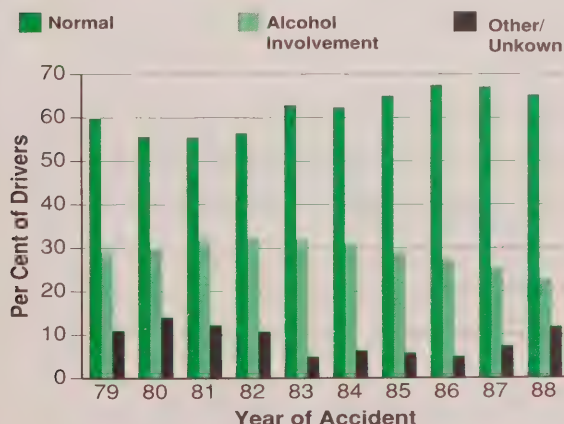
Condition of Driver	Class of Accident			Total
	Fatal	Personal Injury	Property Damage	
Normal	1,154	121,088	221,153	343,395
Had Been Drinking	163	4,937	5,544	10,644
Ability Impaired - Alcohol over .08	226	2,543	2,772	5,541
Ability Impaired Alcohol	18	935	857	1,810
Ability Impaired Drugs	3	84	86	173
Fatigue	19	823	914	1,756
Medical or Physical Defect	13	452	386	851
Inattentive	21	2,455	3,302	5,778
Other	1	167	278	446
Unknown	152	8,848	28,198	37,198
Total	1,770	142,332	263,490	407,592

Had Been Drinking Driver had consumed alcohol but his/her physical condition was not legally impaired.

Ability Impaired Alcohol over .08 Driver had consumed alcohol and upon testing was found to have a blood alcohol level in excess of 80 mg.

Ability Impaired Alcohol Driver had consumed sufficient alcohol to warrant being charged with a drinking and driving offence.

Inattentive Driver was operating a motor vehicle without due care and attention or placing less than full concentration on driving, e.g., changing radio stations, consuming food, reading, talking on phone or two-way radio, using headphones.

Figure 2.5 Per Cent Driver Condition in
Fatal Accidents
1979 - 1988

The condition of the driver was a significant factor as the severity of the accident increased. While alcohol was a factor in only 3.5% of property damage accidents, this increased to 6% in personal injury accidents. In accidents in which someone was killed, 23% of the drivers were alcohol involved. As shown in Table 2.7, alcohol was involved in 42.3% of drivers who were killed.

Table 2.6 **Driver Age by Driver Condition**
In all Accidents 1988*

Driver Age	Driver Condition						Total
		Had Been	Impaired	Ability			
	Normal	Drinking	over .08	Alcohol	Other	Unknown	
Under 16	2,069	31	3	5	158	124	2,390
16	5,811	97	19	2	195	327	6,451
17	9,720	237	55	15	287	488	10,802
18	10,801	361	103	32	361	593	12,251
19	10,847	587	179	51	368	606	12,638
20	10,711	555	178	69	339	570	12,422
21-24	46,593	2,241	944	258	1,289	2,615	53,940
25-34	96,457	3,528	2,058	723	2,281	5,062	110,109
35-44	66,166	1,543	1,079	378	1,301	3,102	73,569
45-54	38,688	684	500	134	749	1,655	42,410
55-64	26,396	417	306	84	688	1,184	29,075
65-74	13,288	158	87	29	515	589	14,666
75 & over	4,839	38	9	6	311	233	5,436
Unknown	1,009	167	21	24	162	20,050	21,433
Total	343,395	10,644	5,541	1,810	9,004	37,198	407,592

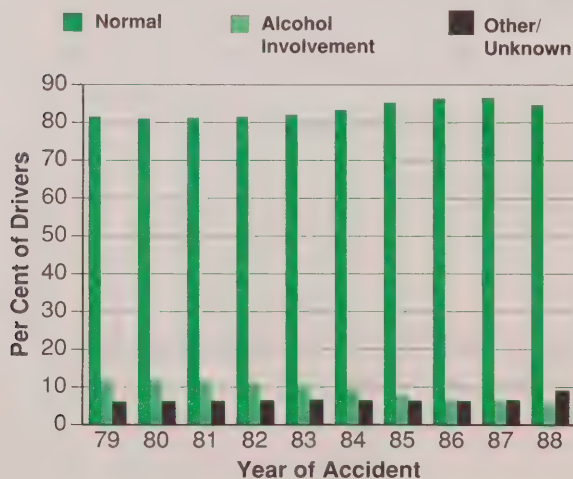
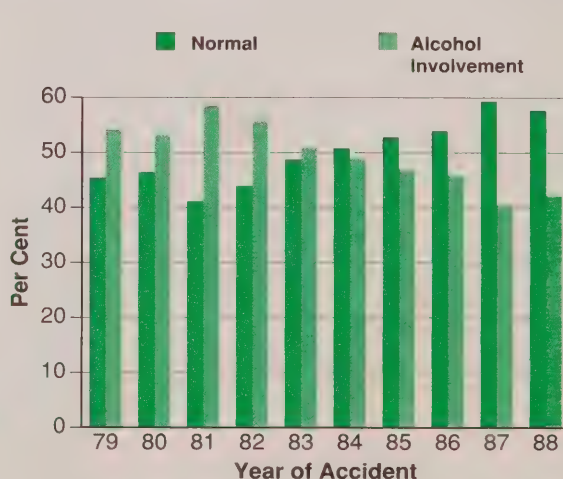
* Includes bicyclists, drivers of all-terrain vehicles, etc.

Table 2.7 **Recorded Occurrence of Alcohol**
In Drivers Killed 1988*

Recorded Occurrence	Drivers Number	Drivers %
Apparently Normal	345	57.7
Had Been Drinking	75	12.5
Alcohol over .08	176	29.4
Ability Impaired Alcohol	2	0.4
Total	598	100.0

*Excludes cases where alcohol usage was unknown and cases where driver condition was other than normal or alcohol-involved.

Alcohol was involved in 42.3% of drivers who were killed in motor vehicle accidents in 1988.

Figure 2.6 **Per Cent Driver Condition in**
Personal Injury Accidents
1979 - 1988**Figure 2.7** **Per Cent Recorded Alcohol**
Occurrence in Drivers Killed
1979 - 1988

**Table 2.8 Apparent Driver Action by
Class of Accident 1988**

Apparent Driver Action	Class of Accident			Total
		Personal	Property	
	Fatal	Injury	Damage	
Driving Properly	707	65,927	114,348	180,982
Following Too Close	3	10,684	16,620	27,307
Speed Too Fast	172	2,865	2,794	5,831
Speed Too Fast for Conditions	137	9,632	17,748	27,517
Speed Too Slow	2	134	281	417
Improper Turn	32	4,664	12,654	17,350
Disobey Traffic Control	85	6,290	7,593	13,968
Fail to Yield				
Right of Way	116	14,378	29,162	43,656
Improper Passing	35	1,578	4,234	5,847
Lost Control	170	10,171	19,691	30,032
Wrong Way on				
One Way Road	9	157	252	418
Improper Lane Change	26	2,471	9,413	11,910
Other*	201	9,629	16,034	25,864
Unknown	75	3,752	12,666	16,493
Total	1,770	142,332	263,490	407,592

*Includes actions defined as careless driving, inattentive driving, fell asleep, hit and run, wrong side of road, improper parking, impaired, illegally parked, dangerous driving, inexperience etc.

In all accidents, 44% of drivers were driving properly. Failure to yield right of way was the most frequently cited driver error, occurring in 10% of personal injury accidents and 11% of property damage only accidents. Loss of control was cited in 7.4% of all accidents, while following too closely was listed in 6.7% of accidents.

Speed too fast and and speed too fast for conditions were cited in 1.4% and 6.8% of accidents respectively; however, these two categories accounted for 17.5% of driver error cited in fatal accidents.

Table 2.9 **Seat Belt Usage by Severity of Driver Injury in Fatal and Personal Injury Accidents 1988**

Safety Equipment	Severity of Injury					Total
	Killed	Major	Minor	Minimal	Not Injured	
Seat Belt Used	192	2,658	18,278	33,108	57,410	111,646
Other Equipment*	2	3	26	24	9	64
Equipment Not Used	276	1,177	2,837	2,480	2,725	9,495
Use Unknown	93	518	1,066	1,164	8,037	10,878
Total	563	4,356	22,207	36,776	68,181	132,083

* Other equipment includes helmets, including construction, motorcycle helmets, etc. It also includes the use of airbags, however, seat belt usage in conjunction with airbag deployment is unknown.

These tables only include accidents in which there were personal injuries or fatalities. Property damage only accidents are excluded. It should be noted that in those ORSARs published prior to 1988, Table 2.9 and 2.10 included seat belt usage for all accidents.

During 1988, 407,592 drivers were involved in motor vehicle accidents. Of these accident-involved drivers, 275,529 were involved in property damage only accidents. Table 2.9 reflects only those drivers involved in accidents which resulted in injuries or fatalities because police accident reports no longer capture seat belt usage in property damage only accidents. A Transport Canada survey indicates that, overall, seven out of every ten drivers wear seat belts in this province.

For those drivers involved in injury-producing crashes, 111,646 were recorded as having been using seat belts, compared to 9,495 who were not.

However, it is significant that, of the drivers travelling unrestrained, 3% died and 12% were seriously injured in the collision, whereas less than one-quarter of a per cent (0.2%) of those using seat belts were killed and 2% were seriously injured.

In social terms, this means medical care and rehabilitation costs, which average twice as much for each non-seat belt wearing accident victim as for those who were buckled up, are unnecessarily high. For the permanently injured many productive years of life are lost, and families are disrupted by the demands of providing long term care. The province has a goal to increase seat belt usage rates to 95% to reduce this toll.

Table 2.10 **Seat Belt Usage by Severity of Passenger Injury in Fatal and Personal Injury Accidents 1988**

Safety Equipment	Severity of Injury					Total
	Killed	Major	Minor	Minimal	Not Injured	
Seat Belt Used	141	1,441	10,487	17,377	29,539	58,985
Child Safety Seat						
Used Incorrectly	0	5	22	23	62	112
Child Safety Seat						
Used Correctly	2	20	255	369	1,856	2,502
Other Equipment*	0	3	10	13	36	62
Equipment Not Used	152	941	3,305	3,122	3,868	11,292
Use Unknown	56	273	736	851	6,558	8,425
Total	351	2,683	14,815	21,755	41,919	81,378

Table 2.11 Restraint Use for Children (0 - 4 Years) Killed in Accidents 1988

Year	Child Restraint Used Correctly	Child Restraint Used Incorrectly	Lap/Lap & Shoulder Belt	Restraint Not Available	Available Not Used	Use Unknown	Total
1988	2	-	8	1	-	1	12

Table 2.12 Restraint Use for Children (0 - 4 Years)
Involved in Fatal and Personal Injury Accidents by Severity of Injury 1988

Restraint Used	Injury Level		
	Major / Fatal %	Minimal/Minor %	No Injuries
Child Restraint Used Correctly	23.1	35.5	35.6
Child Restraint Used Incorrectly	-	-	-
Lap /Lap-Shoulder Belt	36.1	45.4	38.3
Not Available	7.4	5.9	15.4
Available/Not Used	23.2	9.8	3.1
Unknown	10.2	3.4	7.6
Total	100	100	100

Table 2.13 Pedestrian Condition by
Severity of Injury 1988

Condition of Pedestrian	Killed	Injured
Normal	77	4,613
Had Been Drinking	20	415
Ability Impaired Alcohol over .08	17	32
Ability Impaired Alcohol	-	124
Ability Impaired Drugs	1	6
Fatigue	-	3
Medical or Physical Defect	7	92
Inattentive	16	592
Other	2	70
Unknown	46	397
Total	186	6,344

Almost 20% of the pedestrians killed in motor vehicle collisions were alcohol-involved.

Table 2.14 Apparent Pedestrian Action
by Severity of Injury 1988

Apparent Pedestrian Action	Killed	Injured
Crossing Intersection With Right of Way	12	1,425
Crossing Intersection Without Right of Way	20	990
Crossing Intersection No Traffic Control	56	703
Crossing Pedestrian Crossover	7	205
Crossing Marked Crosswalk without Right of Way	2	138
Walking on Roadway With Traffic	15	152
Walking on Roadway Against Traffic	4	101
On Sidewalk or Shoulder	13	493
Playing or Working on Highway	4	109
Coming from Behind Parked Vehicle or Object	8	326
Running onto Roadway	19	962
Getting On/Off School Bus	2	18
Getting On/Off Vehicle	1	113
Pushing/Working on Vehicle	-	56
Other	23	553
Unknown	-	-
Total	186	6,344

2b.

putting
the
people
in
context

Table 2.15 Category of Persons Killed and Injured 1979-1988

Year	Ontario Population (Est.)	Category of Persons											
		Driver		Passenger*		Pedestrian		All Others		Persons Killed In All Classes		Persons Injured In All Classes	
										Rate Per		Rate per	
		Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured	Number	100,000	Number	100,000
1979	8,546,000	668	50,618	468	36,332	273	6,436	151	7,935	1,560	18.3	101,321	1,185.6
1980	8,570,000	682	50,653	413	35,982	266	6,548	147	8,184	1,508	17.6	101,367	1,182.8
1981	8,625,000	657	50,574	393	34,450	237	6,344	158	8,953	1,445	16.8	100,321	1,163.1
1982	8,715,000	487	45,409	296	31,588	179	5,981	176	9,837	1,138	13.1	92,815	1,065.0
1983	8,816,000	528	45,440	302	30,283	204	5,618	170	10,365	1,204	13.7	91,706	1,040.2
1984	9,024,000	460	48,674	282	31,865	189	5,767	201	10,924	1,132	12.5	97,230	1,077.5
1985	9,066,000	502	55,859	333	35,717	182	6,099	174	11,494	1,191	13.1	109,169	1,204.2
1986	9,181,900	511	57,233	289	34,915	153	5,781	149	10,910	1,102	12.0	108,839	1,185.4
1987	9,270,700	545	64,588	318	39,596	187	5,939	179	10,966	1,229	13.3	121,089	1,306.2
1988	9,439,600	563	63,339	351	39,228	186	6,344	137	9,247	1,237	13.1	118,158	1,251.7

*Excludes motorcycle passengers. Motorcycle passengers are included with "all others".

The number of people killed in motor vehicle accidents has shown a small increase since 1986, however the number of people who experienced injuries as a result of traffic collisions dropped slightly in 1988 from the previous year.

Table 2.16 Sex of Driver Population by Age Groups 1988

Sex of Driver	Age Groups							Total
	16-19	20-24	25-34	35-44	45-54	55-64	65+	
Male	175,264	354,317	847,181	719,104	500,951	417,975	366,964	3,381,756
Female	135,500	289,374	741,335	634,737	397,152	296,291	241,967	2,736,356
Total	310,764	643,691	1,588,516	1,353,841	898,103	714,266	608,931	6,118,112

Table 2.17 Driver Population Age Groups 1979-1988

Year	Age Groups							Total
	16-19	20-24	25-34	35-44	45-54	55-64	65+	
1979	352,617	636,554	1,264,128	912,519	755,093	559,011	378,429	4,858,351
1980	345,077	647,805	1,300,738	943,540	764,368	584,173	407,830	4,993,471
1981	354,492	659,144	1,313,592	990,806	771,931	604,892	428,320	5,123,177
1982	342,136	670,118	1,328,974	1,051,422	779,235	628,131	447,182	5,247,198
1983	320,478	682,033	1,359,350	1,103,403	792,933	650,687	471,375	5,380,259
1984	300,364	689,476	1,396,560	1,155,421	806,207	671,271	494,612	5,513,911
1985	293,908	687,467	1,443,327	1,205,614	820,397	685,640	524,069	5,660,422
1986	295,107	676,283	1,494,658	1,257,724	840,322	697,254	556,451	5,817,799
1987	305,886	662,357	1,544,926	1,306,853	866,022	708,865	583,196	5,978,105
1988	310,764	643,691	1,588,516	1,353,841	898,103	714,266	608,931	6,118,112

As the population ages, the average age of the driver population is also increasing. The greatest driver population increase occurred in the 35 to 44 age group, followed by the 25 to 34 age group, and then the 45 to 54 age group. The 20 to 24 age group experienced a drop in numbers for the fifth consecutive year.

Table 2.18 Driver Licence Class by Sex 1988

Licence Class	Driver Sex				Total	%
	Male	%	Female	%		
A	79,912	2.36	748	0.02	80,660	1.31
AM	25,790	0.76	127	0.00	25,917	0.42
AB	3,491	0.10	204	0.00	3,695	0.06
AC	10,473	0.30	130	0.00	10,603	0.17
ABM	1,586	0.04	72	0.00	1,658	0.02
ACM	4,738	0.14	30	0.00	4,768	0.07
B	16,558	0.48	14,332	0.52	30,890	0.50
BM	4,091	0.12	742	0.02	4,833	0.07
C	8,895	0.26	488	0.01	9,383	0.15
CM	2,259	0.06	42	0.00	2,301	0.03
D	179,802	5.31	5,852	0.21	185,654	3.03
DM	38,231	1.13	366	0.01	38,597	0.63
DE	86	0.00	20	0.00	106	0.00
DF	2,327	0.06	76	0.00	2,403	0.03
DEM	17	0.00	2	0.00	19	0.00
DFM	925	0.02	8	0.00	933	0.01
E	1,283	0.03	2,561	0.09	3,844	0.06
EM	149	0.00	59	0.00	208	0.00
F	8,909	0.26	5,126	0.18	14,035	0.22
FM	2,213	0.06	297	0.01	2,510	0.04
G	2,669,790	78.94	2,662,068	97.28	5,331,858	87.14
GM	315,266	9.32	42,272	1.54	357,538	5.84
M	4,965	0.14	734	0.02	5,699	0.09
Total	3,381,756	100.00	2,736,356	100.00	6,118,112	100.00

Table 2.19 Licensed Drivers, Total Accidents, Persons Killed and Injured 1931-1988

Year	Licensed	Total	Persons	Persons
	Drivers	Accidents	Killed	Injured
1931	666,266	9,241	571	8,494
1932	648,710	9,171	502	8,231
1933	638,710	8,634	403	7,877
1934	665,743	9,645	512	8,990
1935	707,457	10,648	560	9,839
1936	755,765	11,388	546	10,251
1937	802,765	13,906	766	12,092
1938	866,729	13,715	640	11,683
1939	899,572	13,710	652	11,638
1940	937,551	16,921	716	13,715
1941	986,773	18,167	801	14,275
1942	961,883	13,490	567	10,205
1943	919,457	11,025	549	8,628
1944	905,650	11,004	498	8,373
1945	971,852	13,458	598	9,804
1946	1,087,445	17,356	688	12,228
1947	1,144,291	22,293	734	13,056
1948	1,209,408	27,406	740	14,970
1949	1,278,584	34,472	830	17,469
1950	1,366,388	43,681	791	19,940
1951	1,461,538	54,920	949	22,557
1952	1,556,559	58,515	1,010	23,643
1953	1,656,259	65,866	1,082	24,353
1954	1,747,567	62,509	1,045	24,607
1955	1,856,845	63,219	1,111	26,246
1956	1,967,789	71,399	1,180	28,626
1957	2,088,551	76,302	1,279	30,414
1958	2,176,417	76,884	1,112	30,106
1959	2,270,246	81,518	1,187	31,602
1960	2,355,567	87,186	1,166	34,436
1961	2,414,615	85,577	1,268	37,146
1962	2,469,425	94,231	1,383	41,766
1963	2,555,015	104,919	1,421	47,801
1964	2,694,023	111,232	1,424	54,560
1965	2,739,138	128,462	1,611	60,917
1966	2,821,648	139,781	1,596	65,210
1967	3,004,654	145,008	1,719	67,280
1968	3,128,509	155,127	1,586	71,520
1969	3,247,979	169,395	1,683	74,902
1970	3,422,892	141,609	1,535	75,126
1971	3,563,197	158,831	1,769	84,650
1972	3,688,541	189,494	1,934	95,181
1973	3,841,628	193,021	1,959	97,790
1974	3,972,980	204,271	1,748	98,673
1975	4,160,623	213,689	1,800	97,034
1976	4,315,925	211,865	1,511	83,736
1977	4,562,903	218,567	1,420	95,664
1978	4,725,546	286,363	1,450	94,979

(Cont'd)

Table 2.19 Licensed Drivers, Total Accidents, Persons Killed and Injured **Continued**

Year	Licensed Drivers	Total Accidents	Persons Killed	Persons Injured
1979	4,858,351	197,196	1,560	101,321
1980	4,993,531	196,501	1,508	101,367
1981	5,123,177	198,372	1,445	100,321
1982	5,247,198	187,943	1,138	92,815
1983	5,380,259	181,999	1,204	91,706
1984	5,513,911	194,782	1,132	97,230
1985	5,660,422	189,750	1,191	109,169
1986	5,817,799	187,286	1,102	108,839
1987	5,978,105	203,431	1,229	121,089
1988	6,118,112	228,398	1,237	118,158

In 1988, the total number of accidents reached 228,398, the highest number since 1978. However, the number of persons killed and injured has remained stable and is lower than the rate during the late 1970's and early 1980's.

Table 2.20 Original Licences Issued
1984-1988

Year	Original Licences
1984	209,675
1985	224,513
1986	231,697
1987	257,372
1988	255,211

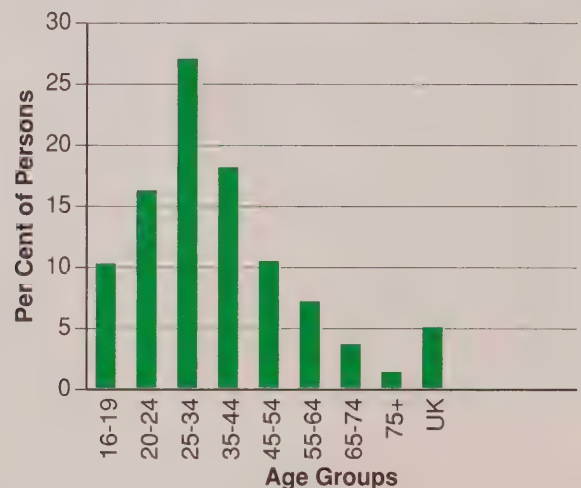
Table 2.21 Temporary Licence Permits
Issued for Class L's and
Class R's 1984-1988

Year	Licence Permits	
	L	R
1984	342,045	45,672
1985	352,908	43,967
1986	369,626	42,032
1987	348,866	38,426
1988	307,748	31,098

Table 2.22 Driver Age Groups - Number Licensed, Accident Involvement and Per Cent Involved in Accidents 1988

Drivers Age	Drivers Licensed			Drivers Involved in Accidents			% of Drivers of Each Age Involved in Accidents		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 16	-	-	-	436	106	542	-	-	-
16	18,573	12,615	31,188	4,209	1,942	6,150	22.7	15.4	19.7
17	43,850	33,823	77,673	7,283	3,254	10,537	16.6	9.6	13.6
18	54,367	42,734	97,101	8,600	3,418	12,018	15.8	8.0	12.4
19	58,474	46,328	104,802	9,014	3,424	12,438	15.4	7.4	11.9
20	60,667	48,373	109,040	8,969	3,241	12,210	14.7	6.7	11.2
21-24	293,650	241,001	534,651	38,494	14,429	52,923	13.1	6.0	9.9
25-34	847,181	741,335	1,588,516	76,908	31,208	108,116	9.1	4.2	6.8
35-44	719,104	634,737	1,353,841	48,679	23,701	72,380	6.8	3.7	5.3
45-54	500,951	397,152	898,103	29,665	12,171	41,836	5.9	3.1	4.7
55-64	417,975	296,291	714,266	21,359	7,396	28,755	5.1	2.5	4.0
65-74	266,107	186,794	452,901	10,430	4,136	14,566	3.9	2.2	3.2
75 & Over	100,857	55,173	156,030	4,007	1,394	5,401	4.0	2.5	3.5
Unknown	-	-	-	-	-	20,880	-	-	-
Total	3,381,756	2,736,356	6,118,112	268,052	109,820	398,752	7.9	4.0	6.5

In general, accident involvement decreases with age. The accident involvement rate was highest at age 16, with 19.7% of drivers involved in accidents (22.7% for males and 15.4% for females). Male drivers are involved in two to three times as many accidents as female drivers. However it must be remembered that the exposure rate (annual kilometres driven) for male drivers is also higher.

Table 2.8 Per Cent of Licensed Drivers Involved in Accidents by Age 1988

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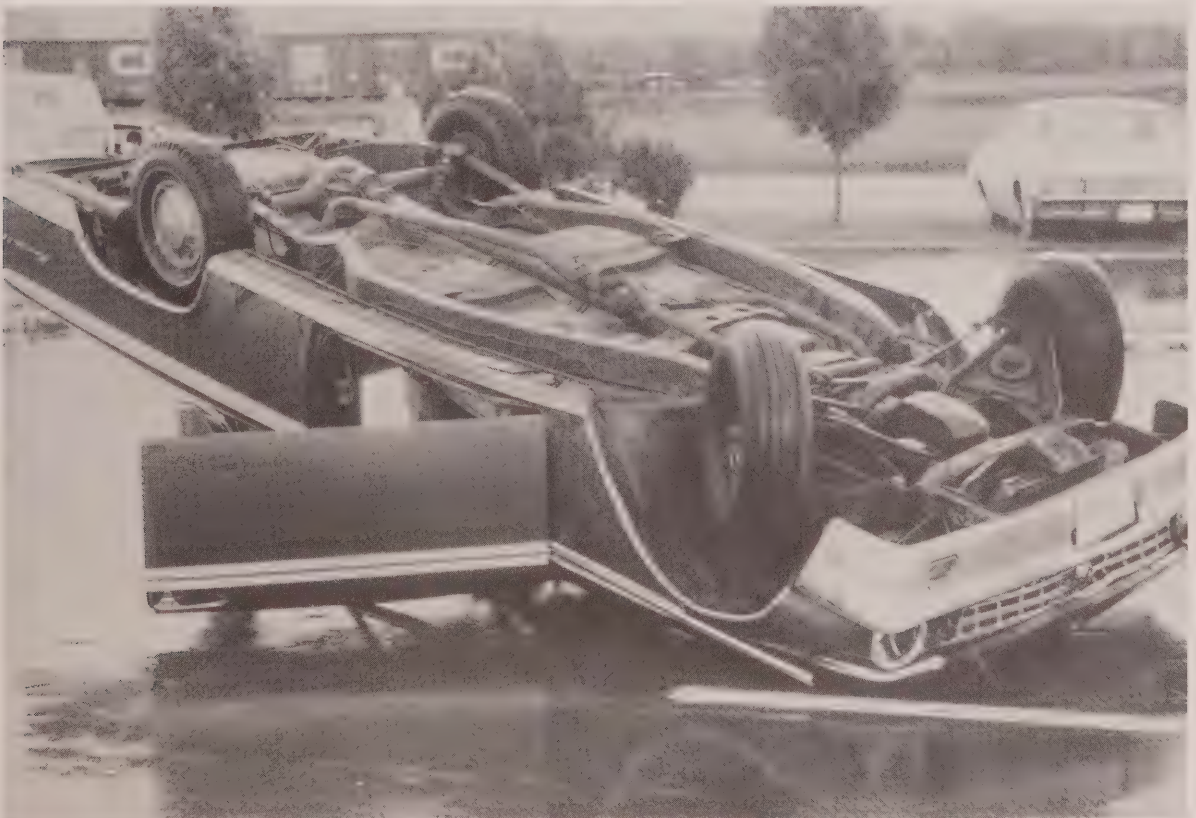
the
accident

In 1988, there were 228,398 reportable accidents in Ontario. Of these, 150,598 were property damage accidents. There were 76,724 accidents in which there were personal injuries and 1,076 accidents which resulted in 1,237 fatalities.

The 228,398 reportable accidents represent an increase of 12.3% over 1987. This increase is attributable to the rise in property damage accidents, as fatal and personal injury accidents decreased 0.8% and 4.6% respectively.

The accident rate per million kilometres travelled rose slightly in 1988 to 3.2, from 2.8 in 1987. However, the fatal accident rate per hundred million kilometres travelled decreased from 1.51 to 1.49 this year, which is the second lowest fatal accident rate since 1955.

The 76,724 personal injury accidents resulted in a total of 118,158 injuries. Of these, 108,679 were minimal or minor in nature.



3a.

types
of
accidents

Table 3.1 Class of Accident 1979-1988				
Year	Class of Accident			Total
	Personal		Property	
	Fatal	Injury	Damage	
1979	1,316	67,201	128,679	197,196
1980	1,296	67,391	127,814	196,501
1981	1,234	67,292	129,846	198,372
1982	997	62,956	123,990	187,943
1983	1,042	62,735	118,222	181,999
1984	1,011	66,101	127,670	194,782
1985	1,036	73,840	114,874	189,750
1986	951	73,703	112,632	187,286
1987	1,085	80,432	121,914	203,431
1988	1,076	76,724	150,598	228,398

The overall accident rate has remained relatively stable since 1979. However 1988 saw an increase of 19% in property damage accidents, which was coupled with a slight decrease in both the fatal accidents and those involving personal injury.

Table 3.2 Accident Rate Per One Million Kilometres Travelled 1979-1988	
Year	Accident Rate
1979	2.7
1980	2.7
1981	2.8
1982	2.9
1983	2.8
1984	2.9
1985	2.8
1986	2.7
1987	2.8
1988	3.2

Table 3.3 **Number of Motor Vehicles Involved in
Accidents Based on Initial Impact 1988***

Motor Vehicle in Accident	Class of Accident			Total
	Personal	Property		
Involving:	Fatal	Injury	Damage	
Movable Objects				
Other Motor Vehicle/s	1,004	111,239	220,904	333,147
Unattended Vehicles	8	1,295	15,431	16,734
Pedestrian	181	5,659	68	5,908
Cyclist	43	4,219	317	4,579
Railway Train	11	58	77	146
Street Car	0	84	343	427
Farm Tractor	1	72	118	191
Animal Domestic	1	124	401	526
Animal Wild	1	282	3,708	3,991
Other Moveable Objects	2	77	285	364
Sub-total	1,252	123,109	241,652	366,013
Fixed Objects				
Cable Guide Rail	2	176	761	939
Concrete Guide Rail	1	192	447	640
Steel Guide Rail	13	444	1,429	1,886
Pole (Utility Tower)	15	822	1,908	2,745
Pole (Sign/Parking Meter)	7	230	1,039	1,276
Fence/Noise Barrier	2	79	367	448
Culvert	1	82	75	158
Bridge Support	4	83	178	265
Rock Face	1	64	86	151
Snow Bank or Drift	1	105	354	460
Ditch	18	820	1,099	1,937
Curb	22	1,062	2,089	3,173
Crash Cushion	0	14	37	51
Building or Wall	0	70	205	275
Water Course	0	6	7	13
Construction Marker	0	21	74	95
Tree, Shrub or Stump	5	264	488	757
Other Fixed Object	11	368	1,417	1,796
Sub-total	103	4,902	12,060	17,065
Other Events				
Ran Off Road	208	6,474	9,011	15,693
Skidding/Sliding	148	5,930	10,953	17,031
Jackknifing	1	53	200	254
Load Spill	1	21	107	129
Fire/Explosion	1	13	511	525
Submersion	0	1	3	4
Rollover	12	720	673	1,405
Debris on Road	2	118	336	456
Debris off Vehicle	10	142	639	791
Other Non-Collision Event	52	2,995	4,694	7,741
Sub-total	435	16,467	27,127	44,029
Total	1,790	144,478	280,839	427,107

Table 3.4 **Initial Impact Type
by Class of Accident 1988**

Initial Impact Type	Class of Accident			Total
	Personal	Property		
	Fatal	Injury	Damage	
Approaching	175	2,590	2,774	5,539
Angle	111	9,672	16,287	26,070
Rear End	45	19,900	26,215	46,160
Sideswipe	25	3,764	15,762	19,551
Turning Movement	73	15,027	34,328	49,428
Single Motor Vehicle Unattended	7	1,144	15,003	16,154
Single Motor Vehicle Other	637	24,405	38,271	63,313
Other	3	222	1,954	2,179
Unknown	-	-	4	4
Total	1,076	76,724	150,598	228,398

In fatal accidents, those involving single motor vehicles comprised 60% of the total.

* Table 3.3 now reflects the number of motor vehicles involved in accidents by initial impact.

It should be noted that almost all accidents which involved cyclists or pedestrians resulted in injuries.

3b

time
and
environment

Table 3.5 Month of Occurrence by Class of Accident 1988								
Month of Occurrence	Class of Accident						Total	%
			Personal		Property			
	Fatal	%	Injury	%	Damage	%		
January	67	6.2	5,857	7.6	13,414	8.9	19,338	8.5
February	65	6.0	5,923	7.7	14,831	9.9	20,819	9.1
March	64	6.0	4,941	6.4	10,992	7.3	15,997	7.0
April	64	6.0	5,266	6.9	9,610	6.4	14,948	6.5
May	89	8.3	6,473	8.4	10,591	7.0	17,153	7.5
June	89	8.3	7,144	9.3	11,199	7.4	18,432	8.1
July	127	11.7	7,170	9.3	11,169	7.4	18,466	8.1
August	123	11.4	7,274	9.4	11,747	7.8	19,144	8.4
September	109	10.1	6,662	8.9	11,736	7.8	18,507	8.1
October	99	9.2	6,999	9.1	14,194	9.4	21,292	9.3
November	89	8.3	6,125	8.0	13,597	9.0	19,811	8.7
December	91	8.5	6,890	9.0	17,510	11.7	24,491	10.7
Total	1,076	100.0	76,724	100.0	150,598	100.0	228,398	100.0

Table 3.6 Day of Week by Class of Accident 1988								
Day of Occurrence	Class of Accident						Total	%
	Personal		Property					
	Fatal	%	Injury	%	Damage	%		
Sunday	157	14.6	8,911	11.6	16,155	10.7	25,223	11.0
Monday	122	11.3	10,142	13.2	19,378	12.9	29,642	13.0
Tuesday	115	10.7	10,280	13.4	20,768	13.8	31,163	13.6
Wednesday	109	10.1	10,137	13.2	20,247	13.4	30,493	13.4
Thursday	133	12.4	10,727	14.0	21,713	14.4	32,573	14.3
Friday	201	18.7	14,043	18.3	27,960	18.6	42,204	18.5
Saturday	239	22.2	12,484	16.3	24,377	16.2	37,100	16.2
Total	1,076	100.0	76,724	100.0	150,598	100.0	228,398	100.0

The largest proportion of fatal accidents occurred on Friday (18.7%) and Saturday (22.2%), together comprising 41% of the total. Personal injury and property damage accidents on these days accounted for 35% of the total.

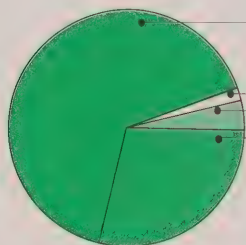
Table 3.7 **Hour of Occurrence by Class of Accident 1988**

Hour of Occurrence	Class of Accident						Total	%
A.M.			Personal		Property			
	Fatal	%	Injury	%	Damage	%		
12 to 1 a.m.	46	4.3	1,604	2.1	2,986	2.0	4,636	2.0
1 to 2 a.m.	69	6.4	2,021	2.6	3,522	2.3	5,612	2.5
2 to 3 a.m.	35	3.3	1,285	1.7	2,386	1.6	3,706	1.6
3 to 4 a.m.	22	2.0	711	0.9	1,321	0.9	2,054	0.9
4 to 5 a.m.	17	1.6	536	0.7	1,051	0.7	1,604	0.7
5 to 6 a.m.	29	2.7	573	0.7	1,185	0.8	1,787	0.8
Sub total	218	20.3	6,730	8.7	12,451	8.3	19,399	8.5
6 to 7 a.m.	27	2.5	1,598	2.1	3,195	2.1	4,820	2.1
7 to 8 a.m.	32	3.0	2,944	3.8	6,470	4.3	9,446	4.1
8 to 9 a.m.	36	3.3	4,145	5.4	8,845	5.8	13,026	5.7
9 to 10 a.m.	31	2.9	2,709	3.5	6,415	4.3	9,155	4.0
10 to 11 a.m.	31	2.9	2,919	3.8	6,504	4.3	9,454	4.1
11 to 12 a.m.	42	3.9	3,655	4.8	7,588	5.0	11,285	4.9
Sub total	199	18.5	17,970	23.4	39,017	25.8	57,186	24.9
Hour of Occurrence P.M.								
12 to 1 p.m.	33	3.1	4,434	5.8	8,644	5.7	13,111	5.7
1 to 2 p.m.	46	4.3	4,299	5.6	8,614	5.7	12,959	5.7
2 to 3 p.m.	44	4.1	4,495	5.9	8,894	5.9	13,433	5.9
3 to 4 p.m.	63	5.9	5,801	7.6	11,189	7.4	17,053	7.5
4 to 5 p.m.	74	6.9	6,782	8.8	12,630	8.4	19,486	8.7
5 to 6 p.m.	58	5.4	6,308	8.2	11,580	7.7	17,946	7.9
Sub total	318	29.7	32,119	41.9	61,551	40.8	93,988	41.4
6 to 7 p.m.	63	5.9	5,092	6.6	8,726	5.8	13,881	6.1
7 to 8 p.m.	60	5.6	3,945	5.1	7,097	4.7	11,102	4.9
8 to 9 p.m.	58	5.4	3,237	4.2	5,756	3.8	9,051	4.0
9 to 10 p.m.	60	5.6	2,831	3.7	5,288	3.5	8,179	3.6
10 to 11 p.m.	48	4.5	2,448	3.2	4,349	2.9	6,845	3.0
11 to 12 p.m.	46	4.3	2,146	2.8	4,155	2.8	6,347	2.8
Sub total	335	31.3	19,699	25.6	35,371	23.5	55,405	24.4
Unknown	6	0.5	206	0.3	2,208	1.5	2,420	1.1
Total	1,076	100.0	76,724	100.0	150,598	100.0	228,398	100.0

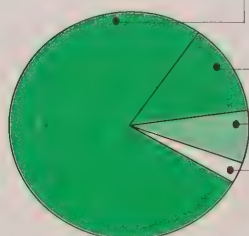
Table 3.8 Statutory Holidays, Holiday Weekends - Fatal Accidents, Persons Killed and Persons Injured 1988

Statutory Holiday	Number of Fatal Accidents	Drivers		Passengers		Others		Total	
		Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured
Easter Weekend	9	7	4	2	10	-	-	9	14
Victoria Day	13	9	8	6	6	-	-	15	14
Canada Day*	19	12	9	11	11	2	-	25	20
Civic Holiday (Simcoe Day)	15	12	5	3	9	1	-	16	14
Labour Day	16	10	11	14	18	2	-	26	29
Thanksgiving Day	11	9	10	2	16	-	-	11	26
Christmas/Boxing Day	11	8	7	3	19	2	-	13	26

* The Canada Day weekend in 1988 saw a three-fold increase in the number of fatal accidents over those in 1987. In 1988, in contrast to the previous two years, this weekend began on a Friday, and therefore was a three day weekend for a greater number of Ontario residents.

Figure 3.1 Light Condition
for All Accidents
1988**Table 3.9** Light Condition by Class of Accident 1988

Light	Class of Accident						Total	%
Condition			Personal		Property			
	Fatal	%	Injury	%	Damage	%		
Daylight	547	50.8	51,085	66.6	98,397	65.3	150,029	65.6
Dawn	15	1.4	1,252	1.7	2,726	1.8	3,993	1.7
Dusk	45	4.2	3,107	4.0	6,117	4.1	9,269	4.1
Dark	467	43.4	21,265	27.7	43,215	28.7	64,947	28.5
Other	2	0.2	15	0.0	143	0.1	160	0.1
Total	1,076	100.0	76,724	100.0	150,598	100.0	228,398	100.0

Figure 3.2 Visibility for
All Accidents
1988**Table 3.10** Visibility by Class of Accident 1988

Visibility	Class of Accident						Total	%
			Personal		Property			
	Fatal	%	Injury	%	Damage	%		
Clear	861	80.0	60,056	78.3	113,764	75.6	174,681	76.5
Rain	90	8.4	10,195	13.3	19,318	12.8	29,603	13.0
Snow	79	7.3	4,435	5.8	12,710	8.4	17,224	7.5
Freezing Rain	6	0.6	743	1.0	2,245	1.5	2,994	1.3
Drifting Snow	6	0.6	419	0.5	1,049	0.7	1,474	0.6
Strong Wind	0	0.0	121	0.2	283	0.2	404	0.2
Fog, Mist, Smoke or Dust	26	2.4	717	0.9	1,104	0.7	1,847	0.8
Other	8	0.7	38	0.0	125	0.1	171	0.1
Total	1,076	100.0	76,724	100.0	150,598	100.0	228,398	100.0

3c. the accident location

Table 3.11 Road Jurisdiction by Class of Accident 1988

Road Jurisdiction	Class of Accident			Total
	Fatal	Personal Injury	Property Damage	
Municipal (Excl. Twp. Rd.)	256	52,551	106,421	159,228
Provincial Highway	444	15,682	28,646	44,772
Township	115	4,152	8,010	12,277
County or District	114	2,755	4,658	7,527
Regional Municipality	136	1,290	2,194	3,620
Federal	9	220	519	748
Other	2	74	150	226
Total	1,076	76,724	150,598	228,398

Table 3.12 Road Jurisdiction for All Accidents 1979-1988

Road Jurisdiction	Year										Total
	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	
Municipal	136,091	135,579	135,346	126,876	119,230	136,456	128,809	120,799	135,949	159,228	1,334,363
Provincial	36,212	34,780	35,584	33,246	32,667	36,110	38,976	38,002	40,825	44,772	371,174
Township	11,905	12,909	11,573	11,476	11,330	11,628	10,562	10,092	10,460	12,277	114,212
County or District	7,593	6,605	6,475	5,669	5,258	6,248	7,002	7,027	7,024	7,527	66,428
Regional Municipality	4,742	5,562	8,220	9,722	12,592	3,393	3,166	10,185	7,863	3,620	69,065
Federal	-	-	-	-	-	-	-	-	-	748	748
Other	653	1,066	1,174	954	922	947	1,235	1,181	1,310	226	9,668
Total	197,196	196,501	198,372	187,943	181,999	194,782	189,750	187,286	203,431	228,398	1,965,658

Figure 3.3 Road Location
for All Accidents
1988

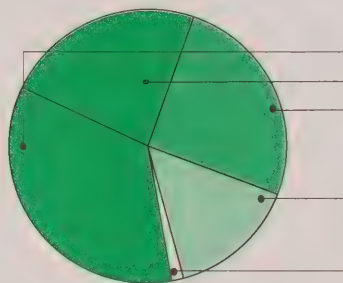


Table 3.13 Road Location by Class of Accident 1988

Road Location	Class of Accident						Total	%
			Personal		Property			
	Fatal	%	Injury	%	Damage	%		
Non-intersection	715	66.4	25,562	33.3	53,402	35.3	79,679	34.8
Intersection Related	48	4.5	18,195	23.7	35,007	23.3	53,250	23.3
In Intersection	201	18.7	22,505	29.3	35,232	23.4	57,938	25.4
At/Near Private Drive	82	7.6	9,481	12.4	24,989	16.6	34,552	15.1
At Railway Crossing	13	1.2	193	0.3	339	0.2	545	0.2
Underpass or Tunnel	0	0.0	140	0.2	258	0.2	398	0.2
Overpass or Bridge	16	1.5	624	0.8	1,293	0.9	1,933	0.9
Other	1	0.1	24	0.0	78	0.1	103	0.1
Total	1,076	100.0	76,724	100.0	150,598	100.0	228,398	100.0

Figure 3.4 Road Surface
Condition
for All Accidents
1988

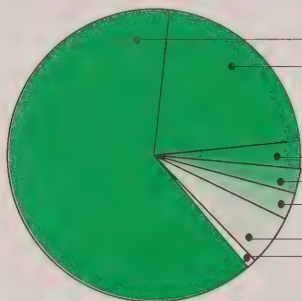


Table 3.14 Road Surface Condition by Class of Accident 1988

Road Surface	Class of Accident						Total	%
Condition			Personal		Property			
	Fatal	%	Injury	%	Damage	%		
Dry	756	70.2	50,407	65.5	91,618	60.9	142,781	62.8
Wet	171	15.9	17,004	22.2	32,433	21.5	49,608	21.7
Loose Snow	29	2.7	1,883	2.5	5,929	3.9	7,841	3.1
Slush	33	3.1	1,653	2.2	4,480	3.0	6,166	2.7
Packed Snow	25	2.3	1,509	2.0	5,302	3.5	6,836	3.0
Ice	46	4.3	3,401	4.4	9,347	6.2	12,794	5.6
Mud	0	0.0	37	0.1	121	0.1	158	0.1
Loose Sand or Gravel	14	1.3	695	0.9	1,083	0.7	1,792	0.8
Spilled Liquid	0	0.0	45	0.1	38	0.0	83	0.0
Other	2	0.2	90	0.1	247	0.2	339	0.2
Total	1,076	100.0	76,724	100.0	150,598	100.0	228,398	100.0

4 place of
accident in
Ontario

Table 4.1 Place of Accident - Estimated Population, Class of Accident, Persons Killed, Persons Injured and Vehicle Registrations 1988

Location		Estimated	Class of Accident				Persons		Motor Vehicle
		Population*	Total		Personal	Property			Registrations
		(1988)	Accidents	Fatal	Injury	Damage	Killed	Injured	
Ontario		9,096,294	228,398	1,076	76,724	150,598	1,237	118,158	5,872,739
Algoma		117,339	3,487	20	1,000	2,467	23	1,493	83,628
Blind River, t		3,263	29	-	14	15	-	21	
Elliot Lake, t M		16,229	142	-	38	104	-	48	
Sault Ste. Marie, c M		78,568	2,191	5	605	1,581	5	884	
Other Areas		19,279	1,125	15	343	767	18	540	
Brant		102,085	2,320	14	854	1,452	18	1,326	66,567
Brantford, c M		75,465	1,372	1	498	873	1	744	
Brantford, twp		2,120	2	-	-	2	-	-	
Burford, twp		5,497	1	-	-	1	-	-	
Paris, t M		7,907	91	-	26	65	-	36	
Other Areas		11,096	854	13	330	511	17	546	
Bruce		57,119	1,058	10	333	715	13	536	43,638
Amabel, twp		3,155	3	-	1	2	-	1	
Brant, twp		3,288	3	-	2	1	-	2	
Carrick, twp		2,268	3	-	2	1	-	4	
Chesley, t		1,790	10	-	-	10	-	-	
Culross, twp		1,539	2	-	-	2	-	-	
Kincardine, t M		5,734	61	-	20	41	-	27	
Port Elgin, t M		5,909	60	-	18	42	-	26	
Saugeen, twp		1,589	1	-	-	1	-	-	
Southampton, t M		2,695	29	1	8	20	1	9	
Walkerton, t		4,687	77	-	9	68	-	13	
Warton, t		2,080	17	-	6	11	-	9	
Other Areas		22,385	592	9	267	516	12	445	
Cochrane		84,846	2,025	9	592	1,424	13	878	57,857
Cochrane, t		4,370	63	-	11	52	-	16	
Hearst, t		5,239	63	1	19	43	1	23	
Iroquois Falls, t		5,895	61	-	11	50	-	11	
Kapuskasing, t M		10,830	115	-	26	89	-	36	
Smooth Rock Falls, t		2,052	15	-	4	11	-	5	
Timmins, c M		46,065	888	1	250	637	1	337	
Other Areas		10,395	820	7	271	542	11	450	
Dufferin		34,452	1,094	9	336	749	9	557	25,024
Mono, twp		4,901	6	-	2	4	-	8	
Mulmer, twp		2,166	3	-	1	2	-	1	
Orangeville, t M		15,293	320	1	69	250	1	106	
Shelburne, t M		3,123	39	-	14	25	-	22	
Other Areas		8,969	726	8	250	468	8	420	

Municipal/Regional Municipal Roads

Legend	t	town	Other Areas -	Include Provincial	M	Municipal Police Force
	c	city		Highways and juris-		
	vl	village		dictions with less than		
	twp	township		1,500 population		

Table 4.1 Continued

Location		Estimated	Class of Accident				Persons		Motor Vehicle
		Population	Total		Personal	Property			Registrations
		(1988)	Accidents	Fatal	Injury	Damage	Killed	Injured	
Durham	M	347,837	8,483	44	2,901	5,538	49	4,648	257,648
Ajax, t		45,046	601	3	184	414	3	303	
Brock, twp		10,082	46	-	12	34	-	18	
Newcastle, t		37,769	576	5	208	363	5	328	
Oshawa, c		120,904	2,838	6	890	1,942	6	1,446	
Pickering, t		56,132	755	4	245	506	4	355	
Scugog, twp		15,675	94	-	31	63	-	53	
Uxbridge, twp		12,281	58	1	22	35	1	37	
Whitby, t		49,948	1,094	3	431	660	3	652	
Other Areas		-	2,421	22	878	1,521	27	1,456	
Elgin		69,174	1,334	9	536	789	13	823	50,371
Aldborough, twp		2,546	4	-	3	1	-	3	
Aylmer, t	M	5,457	105	-	29	76	-	40	
Bayham, twp		3,838	1	-	1	-	-	1	
Dunwich, twp		2,025	1	-	-	1	-	-	
Malahide, twp		5,182	1	-	1	-	-	2	
Port Stanley, vl		1,826	25	-	14	11	-	16	
St. Thomas, c	M	28,405	482	-	207	275	-	299	
South Dorchester, twp		1,812	2	-	1	1	-	2	
Southwold, twp		4,248	1	-	-	1	-	-	
Yarmouth, twp		7,781	5	-	2	3	-	3	
Other Areas		6,054	707	9	278	420	13	457	
Essex		314,952	7,140	38	2,738	4,364	43	4,181	193,337
Amherstburg, t	M	8,211	104	-	33	71	-	45	
Anderdon, twp	M	4,992	2	-	1	1	-	1	
Belle River, t		3,764	33	-	9	24	-	13	
Colchester North, twp		3,583	1	-	-	1	-	-	
Colchester South, twp		4,815	2	-	1	1	-	1	
Essex, t	M	6,252	79	-	19	60	-	26	
Gosfield North, twp		3,913	1	-	-	1	-	-	
Gosfield South, twp		7,362	2	-	1	1	-	1	
Harrow, t		2,395	29	1	12	16	1	17	
Kingsville, t	M	5,332	37	-	18	19	-	27	
Leamington, t	M	12,764	314	-	95	219	-	142	
Maidstone, twp		8,850	2	-	1	1	-	1	
Mersea, twp	M	8,464	5	-	-	5	-	-	
Rochester, twp		4,272	1	-	1	-	-	1	
Sandwich South, twp		4,943	3	-	-	3	-	-	
Sandwich West , twp	M	14,629	4	-	2	2	-	3	
St. Clair Beach, vl	M	3,367	17	-	8	9	-	11	
Tecumseh, t		8,873	110	-	41	69	-	59	
Tilbury North, twp		3,028	1	-	-	1	-	-	
Tilbury West, twp		1,559	1	-	-	1	-	-	
Windsor, c	M	190,198	4,691	11	1,787	2,893	12	2,657	
Other Areas		3,386	1,701	26	709	966	30	1,176	
Frontenac		119,332	2,759	11	886	1,862	17	1,313	76,591
Kingston, c	M	57,382	1,348	2	396	950	2	543	

Table 4.1 Continued

Location	Estimated Population (1988)	Class of Accident				Persons		Motor Vehicle Registrations
		Total Accidents	Fatal	Personal Injury	Property Damage	Killed	Injured	
Kingston, twp	32,774	15	-	5	10	-	5	
Loughborough, twp	3,475	2	-	-	2	-	-	
Pittsburgh, twp	10,848	1	-	1	-	-	1	
Portland, twp	4,173	5	-	1	4	-	1	
Storrington, twp	3,247	1	-	-	1	-	-	
Other Areas	7,433	1,387	9	483	895	15	763	
Grey	75,157	1,546	13	512	1,021	14	818	49,717
Artemesia, twp	2,049	1	-	-	1	-	-	
Bentlnck, twp	3,090	1	-	-	1	-	-	
Collingwood, twp	2,592	2	-	1	1	-	2	
Durham, t	M 2,487	54	-	15	39	-	23	
Hanover, t	M 6,327	97	-	30	67	-	38	
Keppel, twp	2,959	1	-	1	-	-	1	
Meaford, t	M 4,283	41	-	20	21	-	25	
Osprey, twp	1,787	1	-	1	-	-	1	
Owen Sound, c	M 19,913	357	-	95	262	-	131	
St. Vincent, twp	1,930	1	-	-	1	-	-	
Other Areas	27,740	990	13	349	628	14	596	
Haldimand-Norfolk M	89,225	1,903	18	650	1,235	20	1,015	69,758
Delhi, twp	14,539	113	2	26	85	2	40	
Dunnville, t	11,323	147	-	47	100	-	64	
Haldimand, t	18,211	96	-	29	67	-	46	
Nanticoke, c	20,441	230	3	77	150	3	137	
Norfolk, twp	10,514	59	-	31	28	-	38	
Simcoe, t	14,197	346	1	89	256	1	130	
Other Areas	-	912	12	351	549	14	560	
Haliburton	11,945	520	8	156	356	9	261	9,746
Anson, Hindon & Minden, twp	2,683	7	-	3	4	-	4	
Dysart, et al, twp	3,928	12	-	4	8	-	5	
Other Areas	5,334	501	8	149	344	9	252	
Halton M	281,668	6,710	30	2,102	4,578	33	3,311	199,592
Burlington, c	118,546	1,836	9	614	1,213	9	910	
Halton Hills, t	34,189	638	4	180	454	4	280	
Milton, t	30,529	695	5	200	490	6	326	
Oakville, t	98,404	1,508	3	445	1,060	3	665	
Other Areas	-	2,033	9	663	1,361	11	1,130	
Hamilton-Wentworth M	429,466	10,962	38	3,768	7,156	45	5,863	248,256
Ancaster, t	19,728	209	-	73	136	-	112	
Dundas, t	20,640	249	-	88	161	-	137	
Flamborough, twp	27,116	338	3	97	238	5	153	
Glanbrook, twp	9,493	28	1	14	13	1	26	
Hamilton, c	307,160	7,841	12	2,701	5,128	14	3,982	
Stoney Creek, c	45,329	634	7	229	398	8	377	
Other Areas	-	1,663	15	566	1,082	17	1,076	
Hastings	106,240	2,665	16	847	1,802	20	1,315	79,214
Bancroft, vl	2,248	36	-	7	29	-	12	
Belleville, c	M 35,326	916	2	239	675	2	324	

Table 4.1 Continued

Location		Estimated	Class of Accident				Persons		Motor Vehicle
		Population	Total	Fatal	Personal	Property	Killed	Injured	Registrations
		(1988)	Accidents		Injury	Damage			
Deseronto, t	M	1,774	24	-	9	15	-	12	
Frankford, vl		2,020	10	-	4	6	-	5	
Hungerford, twp		2,589	1	-	-	1	-	-	
Madoc, twp		1,597	2	-	1	1	-	2	
Sidney, twp		15,791	2	-	-	2	-	-	
Stirling, vl	M	1,880	13	-	1	12	-	2	
Thurlow, twp		6,864	1	-	1	-	-	1	
Trenton, c	M	14,765	336	1	86	249	1	117	
Tweed, vl	M	1,549	23	-	6	17	-	8	
Tyendinaga, twp		2,651	1	-	-	1	-	-	
Other Areas		17,186	1,300	13	493	794	17	832	
Huron		55,589	967	9	304	654	12	488	36,943
Clinton, t	M	3,091	51	-	17	34	-	24	
Exeter, t	M	3,767	55	-	18	37	-	19	
Goderich, t	M	7,348	142	-	36	106	-	61	
Goderich, twp		2,319	3	-	1	2	-	3	
Hay, twp		1,918	1	-	-	1	-	-	
Morris, twp		1,659	1	-	-	1	-	-	
Seaforth, t	M	2,100	36	-	5	31	-	8	
Stanley, twp		1,591	1	-	-	1	-	-	
Wingham, t	M	2,970	31	-	5	26	-	7	
Other Areas		28,826	646	9	222	415	12	366	
Kenora		35,150	1,446	13	367	1,066	18	570	33,335
Dryden, t	M	6,219	151	1	17	133	1	34	
Ignace, twp		1,979	5	1	1	3	1	1	
Keewatin, t		1,974	20	-	5	15	-	5	
Kenora, t	M	9,373	243	-	38	205	-	47	
Red Lake, twp		2,063	7	-	-	7	-	-	
Sioux Lookout, t		3,027	54	-	17	37	-	19	
Other Areas		10,515	966	11	289	666	16	464	
Kent		105,176	2,082	17	746	1,319	17	1,086	75,517
Blenheim, t		4,336	38	-	7	31	-	9	
Chatham, c	M	41,840	953	1	314	638	1	434	
Chatham, twp		6,369	2	-	-	2	-	-	
Dover, twp		3,974	1	-	-	1	-	-	
Dresden, t	M	2,546	24	-	10	14	-	10	
Harwich, twp		6,089	1	-	1	-	-	2	
Howard, twp		2,334	1	-	1	-	-	1	
Ridgetown, t		3,152	14	-	7	7	-	7	
Romney, twp		1,846	1	-	-	1	-	-	
Tilbury, t	M	4,186	75	-	18	57	-	27	
Wallaceburg, t	M	11,462	178	-	53	125	-	75	
Wheatley, vl		1,539	14	-	6	8	-	7	
Other Areas		15,503	780	16	329	435	16	514	
Lambton		119,528	2,174	15	710	1,449	16	1,071	83,132
Bosanquet, twp		4,415	2	-	-	2	-	-	
Brooke, twp		1,840	1	-	-	1	-	-	

Table 4.1 Continued

Location		Estimated	Class of Accident				Persons		Motor Vehicle
		Population	Total		Personal	Property			Registrations
		(1988)	Accidents	Fatal	Injury	Damage	Killed	Injured	
Clearwater, t	M	24,429	540	4	123	413	5	161	
Forest, t		2,555	22	-	6	16	-	7	
Petrolia, t	M	4,168	43	-	14	29	-	17	
Plympton, twp		4,860	1	-	-	1	-	-	
Point Edward, vl	M	2,216	30	-	21	9	-	37	
Sarnia, c	M	46,448	1,007	3	272	732	3	378	
Sombra, twp		4,022	2	-	-	2	-	-	
Warwick, twp		2,433	1	-	-	1	-	-	
Wyoming, vl		1,824	8	-	4	4	-	5	
Other Areas		20,318	517	8	270	239	8	466	
Lanark		49,483	1,072	10	328	734	13	515	34,644
Almonte, t		4,026	36	-	11	25	-	20	
Beckwith, twp		3,648	1	-	-	1	-	-	
Carleton Place, t	M	6,634	109	-	37	72	-	51	
Montague, twp		3,450	1	-	-	1	-	-	
Pakenham, twp		1,644	2	-	-	2	-	-	
Perth, t	M	5,463	87	-	29	58	-	44	
Ramsay, twp		3,132	1	-	1	-	-	1	
Smiths Falls, t	M	9,047	186	1	45	140	1	59	
Other Areas		12,439	649	9	205	435	12	340	
Leeds & Grenville		83,166	1,910	24	611	1,275	26	1,020	56,529
Augusta, twp		6,811	1	-	1	-	-	1	
Brockville, c	M	20,607	436	-	116	320	-	164	
Cardinal, vl		1,578	4	-	-	4	-	-	
Gananoque, t	M	4,866	58	-	16	42	-	25	
Kemptville, t	M	2,491	24	-	6	18	-	6	
Kitley, twp		2,000	2	-	1	1	-	2	
Prescott, t	M	4,413	73	-	23	50	-	31	
South Elmsley, twp		2,797	1	-	-	1	-	-	
Other Areas		37,603	1,311	24	448	839	26	791	
Lennox & Addington		32,998	759	6	241	512	8	407	20,493
Ernestown, twp		11,108	7	-	2	5	-	3	
Napanee, t	M	4,604	107	-	31	76	-	47	
Richmond, twp		3,624	3	-	-	3	-	-	
Other Areas		13,662	642	6	208	428	8	350	
Manitoulin		6,771	244	5	82	157	6	138	6,987
Middlesex		344,586	8,148	48	3,102	4,998	53	4,760	214,587
Adelaide, twp		1,892	1	-	-	1	-	-	
Biddulph, twp		2,202	1	-	-	1	-	-	
Caradoc, twp		5,458	2	-	2	-	-	3	
Delaware, twp		2,172	1	-	-	1	-	-	
Glencoe, vl		1,801	17	-	10	7	-	15	
London, c	M	281,745	6,184	12	2,342	3,830	12	3,491	
London, twp		5,626	3	-	1	2	-	2	
Lucan, vl		1,740	7	-	2	5	-	3	
Strathroy, t	M	9,186	104	-	41	63	-	57	
Westminster, t		6,062	9	-	4	5	-	4	

Table 4.1 Continued

Location	Estimated	Class of Accident				Persons		Motor Vehicle
	Population	Total		Personal	Property			Registrations
	(1988)	Accidents	Fatal	Injury	Damage	Killed	Injured	
West Nissouri, twp	3,273	3	-	2	1	-	5	
Other Areas	23,429	1,816	36	698	1,082	41	1,180	
Muskoka	39,958	1,387	13	426	948	20	698	31,793
Bracebridge, t	9,968	139	1	33	105	1	51	
Georgian Bay, twp	1,890	8	-	3	5	-	5	
Gravenhurst, t	8,624	114	-	39	75	-	59	
Huntsville, t	12,320	97	-	16	81	-	25	
Muskoka Lakes, twp	4,851	14	1	5	8	1	5	
Other Areas	2,305	1,015	11	330	674	18	553	
Niagara	M 365,197	9,206	27	2,571	6,608	28	4,049	242,904
Fort Erie, t	23,486	489	2	153	334	2	244	
Grimsby, t	16,996	259	1	81	177	1	119	
Lincoln, t	14,335	253	-	75	178	-	124	
Niagara Falls, c	70,540	1,866	2	480	1,384	2	789	
Niagara-on-the-Lake, t	12,050	186	2	67	117	2	118	
Pelham, t	12,430	159	-	34	125	-	53	
Port Colborne, c	17,893	316	-	78	238	-	110	
St. Catharines, c	120,567	2,633	5	713	1,915	5	1,082	
Thorold, c	16,589	246	-	71	175	-	106	
Wainfleet, twp	5,809	15	-	7	8	-	11	
Welland, c	44,569	1,040	-	236	804	-	347	
West Lincoln, twp	9,933	26	-	7	19	-	11	
Other Areas	-	1,718	15	569	1,134	16	935	
Nipissing	74,599	1,777	11	653	1,113	13	987	49,328
Bonfield, twp	1,804	1	-	-	1	-	-	
East Ferris, twp	3,496	5	-	2	3	-	2	
Mattawa, t	2,491	11	-	2	9	-	2	
North Bay, c	M 51,313	826	3	317	506	3	449	
Springer, twp	2,269	3	-	-	3	-	-	
Sturgeon Falls, t	M 5,770	115	1	47	67	1	64	
Other Areas	7,456	816	7	285	524	9	470	
Northumberland	67,232	1,765	12	625	1,128	15	984	36,532
Brighton, t	3,686	47	-	13	34	-	19	
Brighton, twp	2,940	1	-	1	-	-	1	
Campbellford, t	3,408	48	-	13	35	-	20	
Cobourg, t	M 13,210	243	-	73	170	-	102	
Colborne, vl	1,869	28	-	9	19	-	10	
Cramahe, twp	2,461	1	-	-	1	-	-	
Haldimand, twp	3,628	6	-	4	2	-	5	
Hamilton, twp	8,085	6	-	3	3	-	3	
Hope, twp	3,636	2	-	-	2	-	-	
Murray, twp	5,958	1	-	-	1	-	-	
Percy, twp	2,700	1	-	-	1	-	-	
Port Hope, t	M 10,243	82	-	20	62	-	28	
Seymour, twp	3,527	2	-	1	1	-	1	
Other Areas	1,881	1,297	12	488	797	15	796	

Table 4.1 Continued

Location		Estimated	Class of Accident				Persons		Motor Vehicle
		Population	Total		Personal	Property			Registrations
		(1988)	Accidents	Fatal	Injury	Damage	Killed	Injured	
Ottawa-Carleton		623,135	13,754	54	4,368	9,332	56	6,330	346,685
Cumberland, twp		30,164	175	1	61	113	1	92	
Gloucester, c	M	93,121	1,047	7	320	720	7	459	
Goulbourn, twp		13,099	134	-	44	90	-	70	
Kanata, c		30,295	351	2	90	259	2	139	
Nepean, c	M	97,883	1,610	3	525	1,082	3	767	
Osgoode, twp		11,670	112	1	47	64	1	67	
Ottawa, c	M	303,747	6,964	17	2,268	4,679	17	3,148	
Rideau, twp		10,370	108	-	36	72	-	64	
Rockcliffe Park, vl		2,295	15	-	5	10	-	7	
Vanier, c		18,190	367	-	107	260	-	144	
West Carleton, twp		12,301	73	-	26	47	-	41	
Other Areas		-	2,798	23	839	1,936	23	1,332	
Oxford		84,008	2,200	14	754	1,432	16	1,191	60,160
Blandford-Blenheim, twp		6,457	2	-	-	2	-	-	
East Zorra-Tavistock, twp	M	6,878	15	-	8	7	-	10	
Ingersoll, t	M	8,253	140	-	36	104	-	51	
Norwich, twp	M	9,453	21	-	5	16	-	5	
Tillsonburg, t	M	10,621	172	-	61	111	-	88	
Woodstock, c	M	26,295	691	-	207	484	-	303	
Zorra, twp		7,984	2	-	-	2	-	-	
Other Areas		8,067	1,157	14	437	706	16	734	
Parry Sound		30,138	1,089	9	365	715	14	609	26,716
Himsworth North, twp		2,653	1	-	-	1	-	-	
McDougall, twp		1,774	1	-	-	1	-	-	
Parry Sound, t	M	5,895	81	-	29	52	-	38	
Other Areas		19,816	1,006	9	336	661	14	571	
Peel	M	608,327	14,745	62	4,939	9,744	67	7,786	423,603
Brampton, c		192,045	3,514	11	1,235	2,268	13	1,953	
Caledon, t		31,126	782	6	281	495	6	481	
Mississauga, c		385,156	7,443	15	2,372	5,056	15	3,600	
Other Areas		-	3,006	30	1,051	1,925	33	1,752	
Perth		66,226	1,299	9	382	908	10	573	44,212
Elma, twp		3,898	1	-	-	1	-	-	
Listowel, t	M	5,083	92	-	10	82	-	15	
Milverton, vl		1,501	12	-	2	10	-	2	
Mitchell, t	M	3,078	31	-	9	22	-	12	
St. Marys, t	M	4,923	72	-	17	55	-	19	
South Easthope, twp		1,770	2	-	1	1	-	1	
Stratford, c	M	26,078	503	1	126	376	1	185	
Wallace, twp		2,294	1	-	-	1	-	-	
Other Areas		17,601	585	8	217	360	9	341	
Peterborough		105,493	2,534	13	902	1,619	14	1,440	67,533
Belmont & Methuen, twp		2,472	3	-	-	3	-	-	
Cavan, twp		4,647	2	-	1	1	-	2	
Dummer, twp		2,235	1	-	-	1	-	-	
Harvey, twp		2,248	1	-	-	1	-	-	

Table 4.1 Continued

Location		Estimated	Class of Accident				Persons		Motor Vehicle
		Population	Total		Personal	Property			Registrations
		(1988)	Accidents	Fatal	Injury	Damage	Killed	Injured	
Lakefield, vl	M	2,359	23	-	8	15	-	14	
Otonabee, twp		4,593	1	-	1	-	-	2	
Peterborough, c	M	62,005	1,260	3	470	787	4	679	
Smith, twp		8,002	2	-	1	1	-	2	
Other Areas		16,932	1,241	10	421	810	10	741	
Prescott & Russell		59,138	1,183	10	381	792	12	563	55,945
Alfred, twp		1,914	2	-	2	-	-	3	
Cambridge, twp		5,249	1	-	1	-	-	3	
Casselman, vl		2,021	20	-	5	15	-	5	
Clarence, twp		7,885	3	-	2	1	-	2	
East Hawkesbury, twp		2,927	1	-	1	-	-	1	
Hawkesbury, t	M	9,400	170	-	36	134	-	49	
L'Orignal, vl		1,970	8	-	2	6	-	3	
North Plantagenet, twp		2,880	2	-	-	2	-	-	
Rockland, t		5,119	67	-	19	48	-	21	
Russell, twp		8,518	1	-	1	-	-	1	
South Plantagenet, twp		1,579	2	-	1	1	-	1	
Vankleek Hill, t		1,745	18	-	1	17	-	2	
West Hawkesbury, twp		2,710	3	-	-	3	-	-	
Other Areas		5,221	885	10	310	565	12	472	
Prince Edward		21,793	367	6	126	235	9	193	15,884
Ameliasburg, twp		5,005	2	-	1	1	-	1	
Picton, t		4,049	67	-	22	45	-	28	
Other Areas		12,739	298	6	103	189	9	164	
Rainy River		18,981	531	1	133	397	1	197	15,596
Atikokan, twp	M	4,092	3	-	3	-	-	4	
Fort Francis, t	M	8,589	183	-	44	139	-	65	
Other Areas		6,300	345	1	86	258	1	128	
Renfrew		85,953	1,631	21	539	1,071	27	847	59,896
Arnprior, t		6,002	59	-	15	44	-	23	
Deep River, t	M	4,166	16	-	3	13	-	3	
Pembroke, c	M	13,595	287	-	93	194	-	143	
Petawawa, twp		7,905	4	-	3	1	-	5	
Petawawa, vl		5,189	12	-	4	8	-	4	
Renfrew, t	M	7,914	145	-	37	108	-	51	
Westmeath, twp		2,100	2	-	1	1	-	1	
Other Areas		39,082	1,106	21	383	702	27	617	
Simcoe		241,694	6,908	41	2,154	4,713	45	3,501	166,035
Alliston, t	M	4,885	71	-	21	50	-	28	
Barrie, c	M	49,818	1,434	2	392	1,040	2	552	
Beeton, vl		2,189	15	-	7	8	-	10	
Bradford, t	M	10,188	170	-	44	126	-	56	
Collingwood, t	M	12,196	296	-	81	215	-	142	
Elmvale, vl		1,564	25	-	4	21	-	7	
Essa, twp		12,828	4	-	-	4	-	-	
Innisfil, twp		14,529	10	-	1	9	-	1	
Mara, twp		4,226	6	-	2	4	-	4	

Table 4.1 **Continued**

Location	Estimated	Class of Accident				Persons		Motor Vehicle	
	Population	Total		Personal	Property			Registrations	
	(1988)	Accidents	Fatal	Injury	Damage	Killed	Injured		
Medonte, twp		4,583	2	-	1	1	-	1	
Midland, t	M	12,171	244	-	82	162	-	111	
Nottawasaga, twp		4,854	4	-	1	3	-	1	
Orillia, c	M	23,893	443	1	109	333	1	166	
Orillia, twp		7,238	5	-	1	4	-	1	
Oro, twp		7,789	3	-	-	3	-	-	
Penetanguishene, t	M	5,533	77	-	20	57	-	29	
Port McNicoll, vl		1,818	5	-	1	4	-	2	
Stayner, t		3,045	33	-	15	18	-	24	
Sunnidale, twp		2,304	2	-	1	1	-	1	
Tay, twp		5,943	3	-	1	2	-	1	
Tecumseth, twp		7,370	3	-	3	-	-	4	
Tiny, twp		7,393	2	-	-	2	-	-	
Tottenham, vl		2,856	27	-	8	19	-	11	
Vespra, twp		6,502	6	-	-	6	-	-	
Wasaga Beach, t		4,807	132	-	48	84	-	68	
West Gwillimbury, twp		4,431	3	-	1	2	-	1	
Other Areas		16,741	3,883	38	1,310	2,535	42	2,280	
Stormont, Dundas and Glengarry		101,978	2,320	13	827	1,480	16	1,284	67,968
Alexandria, t	M	3,229	88	-	19	69	-	24	
Charlottenburgh, twp		7,004	1	-	-	1	-	-	
Cornwall, c	M	45,529	1,009	3	369	637	3	582	
Cornwall, twp		5,770	2	-	2	-	-	3	
Kenyon, twp		3,092	4	-	1	3	-	1	
Lochiel, twp		3,362	1	-	-	1	-	-	
Matilda, twp		3,133	2	-	-	2	-	-	
Morrisburg, vl		2,237	14	-	3	11	-	3	
Osnabruck, twp		4,236	1	-	-	1	-	-	
Winchester, twp		3,083	10	-	3	7	-	4	
Winchester, vl		2,167	1	-	-	1	-	-	
Other Areas		19,136	1,198	10	433	755	13	671	
Sudbury District and									
Sudbury Regional Munic.	M	168,677	4,340	35	1,537	2,768	44	2,446	110,994
Capreol, t		3,531	37	-	11	26	-	15	
Chapleau, twp		3,070	22	-	3	19	-	4	
Espanola, t	M	5,358	43	-	22	21	-	29	
Nickel Centre, t		11,063	115	-	37	78	-	57	
Onaping Falls, t		5,153	39	-	10	29	-	17	
Rayside-Balfour, t		13,702	119	2	43	74	2	81	
Sudbury, c		89,698	2,427	12	820	1,595	12	1,264	
Valley East, t		19,119	246	4	101	141	4	170	
Walden, t		9,048	89	-	31	58	-	42	
Other Areas		8,935	1,203	17	459	727	26	767	
Thunder Bay		140,951	4,573	27	1,255	3,291	35	1,924	106,996
Geraldton, t		2,528	28	-	6	22	-	7	
Longlac, t		2,133	17	-	1	16	-	2	
Marathon, t	M	4,140	4	-	-	4	-	-	

Table 4.1 Continued

Location	Estimated Population (1988)	Class of Accident				Persons		Motor Vehicle Registrations
		Total Accidents	Fatal	Personal Injury	Property Damage	Killed	Injured	
Nipigon, twp	2,315	11	-	3	8	-	5	
Oliver, twp	2,289	3	-	2	1	-	2	
Paipooonge, twp	2,750	2	-	-	2	-	-	
Schreiber, twp	1,891	17	-	4	13	-	4	
Terrace Bay, twp	2,491	18	-	1	17	-	1	
Thunder Bay, c	109,269	2,981	9	792	2,180	12	1,157	
Other Areas	11,145	1,470	18	443	1,009	23	742	
Timiskaming	35,741	960	3	270	687	3	398	25,460
Englehart, t	1,707	16	-	5	11	-	8	
Haileybury, t	4,744	52	-	7	45	-	14	
Kirkland Lake, t	11,300	177	-	36	141	-	43	
New Liskeard, t	5,159	86	-	24	62	-	33	
Other Areas	12,831	629	3	198	428	3	300	
Toronto, Metropolitan, M	2,133,559	58,480	128	20,883	37,469	132	31,184	Registrations
East York, borough	96,497	1,335	1	474	860	1	672	Included in
Etobicoke, c	293,433	5,313	13	2,104	3,196	13	3,153	Regional
North York, c	544,960	12,025	22	4,580	7,423	23	6,985	Municipality
Scarborough, c	470,406	9,021	20	3,462	5,539	21	5,303	of York
Toronto, c	597,126	21,250	39	7,076	14,135	41	9,851	
York, c	131,537	2,227	7	755	1,465	7	1,103	
Other Areas	-	7,309	26	2,432	4,851	26	4,117	
Victoria	55,132	1,492	11	533	948	13	886	37,965
Bobcaygeon, vl	1,944	18	-	10	8	-	17	
Emily, twp	5,350	3	-	2	1	-	6	
Fenelon, twp	5,141	2	-	-2	-	-	2	
Fenelon Falls, vl	1,755	29	-	8	21	-	11	
Lindsay, t	15,265	396	-	130	266	-	188	
Manvers, twp	4,565	1	-	-	1	-	-	
Mariposa, twp	5,771	2	-	2	-	-	2	
Ops, twp	3,589	1	-	1	-	-	1	
Verulam, twp	3,327	1	-	-	1	-	-	
Other Areas	8,425	1,039	11	378	650	13	659	
Waterloo	M 342,030	8,935	31	2,902	6,002	38	4,396	216,000
Cambridge, c	80,657	1,932	2	629	1,301	3	953	
Kitchener, c	152,771	3,711	9	1,182	2,520	9	1,772	
North Dumfries, twp	5,486	35	2	12	21	2	26	
Waterloo, c	67,435	1,401	1	462	938	1	653	
Wellesley, twp	7,500	17	-	6	11	-	13	
Wilmot, twp	11,423	53	-	21	32	-	30	
Woolwich, twp	16,758	76	2	22	52	2	41	
Other Areas	-	1,710	15	568	1,127	21	908	
Wellington	143,778	3,433	37	1,289	2,107	44	2,036	95,751
Arthur, twp	2,132	2	-	-	2	-	-	
Arthur, vl	1,967	28	-	7	21	-	7	
Elora, vl	2,991	23	-	7	16	-	8	
Erin, twp	6,606	6	-	4	2	-	6	
Erin, vl	2,308	22	-	9	13	-	9	

Table 4.1 Continued

Location		Estimated	Class of Accident				Persons		Motor Vehicle
		Population	Total		Personal	Property			Registrations
		(1988)	Accidents	Fatal	Injury	Damage	Killed	Injured	
Fergus, t	M	6,757	85	-	25	60	-	35	
Guelph, c	M	80,786	1,487	2	584	901	2	858	
Guelph, twp		3,075	1	-	-	1	-	-	
Harriston, t	M	1,940	24	-	8	16	-	11	
Maryborough, twp		2,358	1	-	-	1	-	-	
Minto, twp		2,169	2	-	-	2	-	-	
Mount Forest, t	M	3,713	49	-	12	37	-	25	
Nicol, twp		3,742	3	-	-	3	-	-	
Palmerston, t	M	2,085	20	-	1	19	-	1	
Puslinch, twp		4,703	4	-	3	1	-	6	
Other Areas		16,446	1,676	35	629	1,012	42	1,070	
York	M	409,292	10,681	54	3,208	7,419	57	5,253	1,466,354
Aurora, t		24,545	466	1	104	361	1	162	
East Gwillimbury, t		16,513	92	1	27	64	1	52	
Georgina, t		22,587	440	5	147	288	7	239	
King, twp		16,607	67	-	27	40	-	47	
Markham, t		129,501	1,909	5	456	1,448	5	691	
Newmarket, t		37,277	600	2	153	445	2	242	
Richmond Hill, t		57,082	987	5	265	717	5	429	
Vaughan, t		88,475	1,789	5	504	1,280	5	814	
Whitchurch-Stouffville, t		16,705	104	2	28	74	2	38	
Other Areas		-	4,227	28	1,497	2,702	29	2,539	
Vehicle Registration Location Not Recorded									29,318

* Source: Ontario Ministry of Municipal Affairs
Municipal Directory 1989

Population data in this table refers to those persons
residing in a municipality on a permanent basis.

5

the
vehicle

Passenger vehicles make up three quarters of the vehicle population in Ontario, and they comprise 73% of the vehicles which are involved in accidents. Of the vehicles involved in accidents, 93% had no known defects.

Of the vehicles with defects, the majority involved the brakes and tires. Approximately 26% of the vehicles involved in fatal accidents were ten years or older.



5a.

vehicles
in
accidents**Table 5.1** Type of Vehicle Involved in All Accidents 1988

	In	In Personal	In Property	In All
Type of Vehicle	Fatal	Injury	Damage	Accidents
Passenger Car	1,064	106,776	203,732	311,572
Passenger Car & Trailer	7	234	619	860
Truck	381	22,268	51,817	74,466
Truck & Trailer	20	668	1,752	2,440
Tractor & Semi-trailer	116	1,739	4,599	6,454
Motorcycle	89	4,067	747	4,903
Bus	16	933	1,952	2,901
School Bus/Vehicle	8	315	932	1,255
Other - Or not Known	22	2,617	13,234	15,873
Non Motor Vehicle	67	4,861	1,455	6,383
Total	1,790	144,478	280,839	427,107

In 1988, major revisions were made in the recording of motor vehicle accident data. The above table now reflects a consolidation of various types of vehicles and/or trailers and therefore valid conclusions cannot be made when comparing this data to that of previous years.

More detailed information for some vehicles is provided in the Vehicles of Special Interest Section.

Table 5.2 Condition of Vehicle by Class of Accident 1988

Condition of Vehicle	Class of Accident			Total
	Personal		Property	
	Fatal	Injury	Damage	
No Apparent Defect	1,635	136,368	257,897	395,900
Service Brakes Defective	2	268	294	564
Steering Defective	1	28	41	70
Tire Puncture or Blow Out	0	94	172	266
Tire Tread Insufficient	0	74	85	159
Headlamps Defective	0	31	30	61
Other Lamps or Reflectors Defective	0	63	129	192
Engine Controls Defective	0	25	53	78
Wheels or Suspension Defective	0	18	27	45
Vision Obscured	0	14	21	35
Trailer Hitch Defective	0	1	22	23
Other Defects	65	1,435	2,539	4,039
Unknown	87	6,059	19,529	25,675
Total	1,790	144,478	280,839	427,107

In 93% of accidents, there was no apparent vehicle defect. Of vehicle defects, the most frequently cited problems included defective service brakes (10.2%) and tire puncture, blowout, or insufficient tread (7.7%).

Table 5.3 Model Year of Vehicle by Class of Accident 1988

Model Year of Vehicle	Class of Accident			Total
	Personal		Property	
	Fatal	Injury	Damage	
1989	16	642	1,460	2,118
1988	206	13,133	25,569	38,908
1987	211	15,898	30,937	47,046
1986	199	16,301	31,935	48,435
1985	170	14,583	27,794	42,547
1984	151	12,682	24,130	36,963
1983	88	8,694	15,743	24,525
1982	92	7,975	14,396	22,463
1981	112	9,734	18,670	28,516
1980	95	9,190	17,309	26,594
1979 and Earlier	380	29,029	57,118	86,527
Unknown	70	6,617	15,778	22,465
Total	1,790	144,478	280,839	427,107

Vehicles which were ten years or older were involved in 26.5% of all accidents, and in the same percentage of fatal accidents. Vehicles which are ten years or older make up 26.2% of the total vehicle population, including 23.1% of passenger vehicles.

Table 5.4 Insurance Status of Vehicle by Class of Accident 1988

Insurance	Class of Accident			Total
	Personal		Property	
	Fatal	Injury	Damage	
Insured	1,632	133,820	260,419	395,871
Not Insured	78	3,910	3,029	7,017
Unknown	80	6,748	17,391	24,219
Total	1,790	144,478	280,839	427,107

5b.

putting the
vehicle
in context**Table 5.5** Vehicle Population by
Type of Vehicle 1988

Vehicle Class	
Passenger	4,577,803
Motorcycle	133,580
Moped	5,289
Commercial	1,020,919
Bus	18,719
School Bus	9,622
Motorized Snow Vehicle	285,744
Off-Road Vehicle	68,634
Road Building Machinery	1,040
Permanent Apparatus	3,900
Farm Trucks	33,233
Total	6,158,483

Table 5.7 Vehicle Damage Level 1988

Damage	Class of Accident			Total
	Fatal	Personal Injury	Property Damage	
None	115	15,467	17,912	33,494
Light	191	38,538	111,013	149,742
Moderate	187	37,963	101,314	139,464
Severe	340	33,253	30,729	64,322
Demolished	922	14,387	4,595	19,904
Unknown	35	4,870	15,276	20,181
Total	1,790	144,478	280,839	427,107

Vehicle Damage

None -No visible damage.

Light -Slight or superficial damage. Includes scratches, small dents, minor cracks in glass that do not affect safety or performance of vehicle.

Moderate -Unsafe conditions result from damage. Vehicle must be repaired to make its condition meet requirements of law. Vehicle can be driven off road or limited distance but doing so would be unsafe.

Severe -Vehicle cannot be driven. Requires towing. Would normally be repaired.

Demolished -Vehicle damaged to the extent that repairs would not be feasible.

Table 5.6 Selected Types of Vehicles by Model Year 1988

Vehicle Class	Model Years											Total
	89	88	87	86	85	84	83	82	81	80	79+	
Passenger	109,503	462,837	445,910	496,939	446,204	403,653	281,021	248,933	319,675	303,340	1,059,788	4,577,803
Motorcycle	39	2,940	4,021	9,076	13,384	16,047	15,151	16,638	9,971	7,104	39,209	133,580
Moped	-	23	95	103	80	95	237	303	267	205	3,881	5,289
Commercial	21,516	126,054	104,401	104,791	87,853	72,269	44,691	41,054	66,313	60,616	329,534	1,059,092
Bus	413	2,987	3,203	2,447	2,624	2,231	1,842	1,739	2,033	1,516	7,306	28,341
Motorized Snow Vehicle	9,124	13,703	11,709	9,450	7,938	5,568	6,243	9,917	13,243	25,794	173,055	285,744
Off-Road Vehicle	396	2,954	6,885	11,638	11,176	12,809	9,462	4,417	2,095	1,195	5,607	68,634
Total	140,991	611,498	576,224	634,444	569,259	512,672	358,647	323,001	413,597	399,770	1,618,380	6,158,483

6

**vehicles of
special
interest**

Some vehicles are considered to present special concerns in terms of their operating characteristics, accident trends, changes in vehicle population size or in areas of particular public concern. Such vehicles include motorcycles, school vehicles, trucks, motorized snow vehicles, off-road vehicles, and bicycles. Some of the statistics pertaining to the unique road safety issues concerning these vehicles are presented in this section.



6a. motorcycles

Table 6.1 Motorcyclists*
Killed and Injured
1984-1988

Year	Drivers		Passengers	
	Killed	Injured	Killed	Injured
1984	116	5,272	19	1,017
1985	97	5,327	23	920
1986	99	5,012	15	870
1987	120	4,721	12	798
1988	76	3,866	13	666

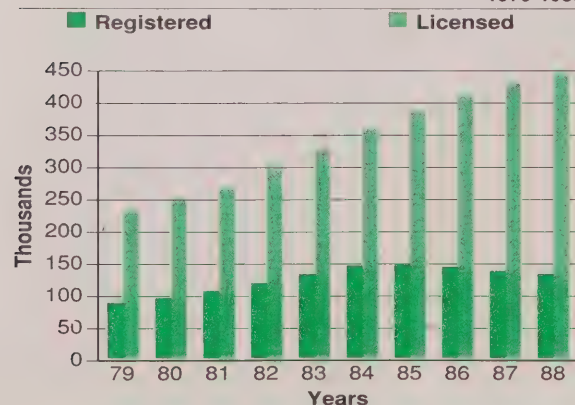
*Excludes moped drivers and passengers.

Over the five year period from 1984 to 1988, the average number of driver and passenger fatalities per year was 118. The average number of injuries for drivers and passengers per year was 5,694. In 1988, the total fatalities for drivers and passengers were approximately 24% lower than the five year average while the total injuries were approximately 20% lower.

Table 6.2 Selected Factors
Relevant to
Fatal Motorcycle Accidents 1988

Factors	%
Unlicensed Motorcycle Drivers	22
Under 25 Years Old	57
Alcohol Used (Driver Fatalities)	
Ability Impaired Alcohol >.08	23
Had Been Drinking	15
Unknown	16
Helmet not Worn	13
Motorcycle Driver Error	
Speed Exceed Limit	41
Other Error	30
Single Vehicle Accidents	45
Day / Night	53 / 46
Weekend	44

The number of fatalities involving motorcycle drivers has declined considerably from previous years. Youth and speed continue to play a significant role in motorcycle fatalities. Single vehicle fatal accidents involving motorcycles comprise 45% of the total. Of those involved in fatal motorcycle accidents, almost a quarter of the victims did not have a motorcycle licence.

Figure 6.1 Registered Motorcycles and
Licensed Motorcyclists
1979-1988

6b. school vehicles

Table 6.3 Pupils Transported Daily, Total Accidents and Injury Rate per 100,000 Pupils -
School Years 1983/84-1987/88

	School Year	Pupils	Total	Injury Rate Per 100,000 Pupils	
		Transported	Number of	Fatal	Non-Fatal
		Daily	Accidents		
	1983/84	602,898	900	0.3	39
	1984/85	622,219	866	-	34
	1985/86	652,406	961	0.1	44
	1986/87	685,825	922	0.1	26
	1987/88	712,893	852	0.4	30

Table 6.4 School Vehicle Type by Nature of
Accident 1987/88

School Vehicle Type	Nature of Accident				Total	Five Year Total
	Fatal	Pupil Injury	Non-Pupil Injury	Property Damage	Number of Accidents	(1983/84 1987/88)
School Bus	4	58	144	492	698	3,560
Van	-	20	36	95	151	922
Station Wagon	-	-	-	-	-	8
Other Buses	-	-	1	2	3	11
Total Accidents	4	78	181	589	852	4,501

Table 6.5 Pupil Injury By Accident Event and Vehicle Type 1987/88

School Vehicle Type	Accident Event							Total		Five Year Total	
	Crossing		Within		Other					(1983/84 1987/88)	
	Road	School Vehicle									
	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured	
School Bus	3	10	-	175	-	5	3	190	6	923	
Van	-	2	-	39	-	2	-	43	1	211	
Station Wagon	-	-	-	-	-	-	-	-	-	2	
Other Buses	-	-	-	-	-	-	-	-	-	2	
Total	3	12	-	214	-	7	3	233	7	1,138	

6c. trucks

Table 6.6 Class of Truck Accident
1984 - 1988

Year	Class of Accident			Total
	Fatal	Personal Injury	Property Damage	
1984	381	17,486	41,953	59,820
1985	417	20,149	39,820	60,386
1986	416	21,337	41,142	62,895
1987	483	25,100	45,589	71,172
1988	471	20,720	46,462	67,653
Total	2,168	104,792	214,966	321,926

Table 6.7 Driver Licence Class Required
by Class of Truck Accident 1988

Driver Licence Required	Class of Accident			Total
	Fatal	Personal Injury	Property Damage	
G	308	17,481	37,972	55,761
D	42	1,256	3,372	4,670
A*	121	1,983	5,118	7,222
Total	471	20,720	46,462	67,653

* Includes truck/trailer combinations requiring a class "A" licence.

Table 6.8 Driver Licence Class Required-
Accidents, Registered Trucks and
Accident Rate 1988

Driver Licence Required	Accidents	Registered Vehicles	Accident Rate
G	55,761	901,152	6.2
D	4,670	66,121	7.1
A*	7,222	91,189	7.9
Total	67,653	1,058,462	6.4

* Tractor/trailer combination only.

Data for truck/trailer combinations requiring a Class "A" driver licence are not reported separately in the Vehicle Registration System.

Table 6.9 Selected Factors Relevant to
Fatal Truck Accidents 1988

Factors	Driver Licence Required		
	Class G	Class D	Class A
Driver Condition in			
Fatal Accidents:			
Alcohol Involved	29.2%	6.82%	3.3%
Driving Properly	44.8%	43.2%	63.4%
Single Vehicle	50.4%	36.4%	39.0%
Vehicle Defect Present*	6.0%	4.6%	4.1%
Urban	30.0%	40.9%	17.1%
Daylight	57.6%	77.3%	57.7%

*Excludes unknown category

6d.

off-road
vehicles

Table 6.10 **Accident Location by Off-Road
Vehicle Drivers
Killed and Injured 1984-1988**

Location	Killed					Injured				
	1984	1985	1986	1987	1988	1984	1985	1986	1987	1988
On-Highway	7	3	6	8	2	51	92	106	97	42
Off-Highway	-	7	2	6	5	70	112	89	79	159
Total	7	10	8	14	7	121	204	195	176	201

Table 6.11 **Accident Location by Off-Road
Vehicle Passengers
Killed and Injured 1984-1988**

Location	Killed					Injured				
	1984	1985	1986	1987	1988	1984	1985	1986	1987	1988
On-Highway	-	1	-	-	-	19	23	32	32	8
Off-Highway	-	2	3	1	1	16	33	23	22	41
Total	-	3	3	1	1	35	56	55	54	49

For the purposes of this publication, off-road vehicles include dune buggies, off-road motorcycles (dirt bikes), and three and four wheeled all-terrain vehicles. Off-road vehicles were first required to be registered on June 1, 1984.

Table 6.12 **Registered Off-Road
Vehicles 1984-1988**

Year	Vehicles Registered
1984	28,368
1985	43,545
1986	53,943
1987	62,038
1988	68,634

Table 6.13 **Selected Factors Relevant to
All Off-Road Vehicle
Accidents 1988**

Factors	%
Drivers Under 25 Years of Age	68
Alcohol Used	21
Speeding	34
Helmet not Worn	27
Daytime	58
Two-wheeled	17.1
Three-wheeled	49.3
Four-wheeled	33.6

6e.

motorized
snow
vehicles

Table 6.14 Accident Location by Motorized Snow Vehicle Drivers Killed and Injured - Riding Seasons 1983/84-1987/88

Location	Killed					Injured				
	83/84	84/85	85/86	86/87	87/88	83/84	84/85	85/86	86/87	87/88
On-Highway	14	8	6	5	4	193	159	192	137	111
Off-Highway	8	5	9	13	13	149	130	168	143	166
Total	22	13	15	18	17	342	289	360	280	277
% On-Highway	64	62	40	28	24	56	55	53	49	40

Table 6.15 Accident Location by Motorized Snow Vehicle Passengers Killed and Injured - Riding Seasons 1983/84-1987/88

Location	Killed					Injured				
	83/84	84/85	85/86	86/87	87/88	83/84	84/85	85/86	86/87	87/88
On-Highway	2	3	-	-	-	59	43	57	49	28
Off-Highway	-	1	1	1	5	42	41	47	45	53
Total	2	4	1	1	5	101	84	104	94	81

Table 6.16 Registered Motorized Snow Vehicles 1984-1988

Year	Registered Motorized Snow Vehicles 1984-1988
1984	169,172
1985	209,290
1986	237,806
1987	263,681
1988	285,744

Table 6.17 Selected Factors Relevant to All Motorized Snow Vehicle Accidents 1987/88

Factors	%
Unlicensed Operators	17
Rider Error; Speeding	34
Alcohol Used	26
Surface Condition; Icy or Packed Snow	78

6f. bicycles

Table 6.18 **Bicyclists***
Killed and Injured
1984-1988

Year	Drivers		Passengers	
	Killed	Injured	Killed	Injured
1984	50	4,263	1	52
1985	42	4,662	1	46
1986	29	4,681	-	41
1987	34	5,093	1	41
1988	43	4,294	-	34

*Only accidents involving a bicycle and a motor vehicle or streetcar are required to be reported. These tables do not include bicycle only, bicycle-bicycle or bicycle- pedestrian accidents.

Table 6.19 **Age of Bicyclist* Involved in Accidents by**
Light Condition 1988

Light Condition	Age Groups					UK	Total
	0 - 5	6 - 15	16 - 30	31 - 60	61+		
Daylight	84	1,460	1,641	404	65	196	3,849
Dawn	1	3	18	8	-	1	31
Dusk	7	104	100	17	1	11	240
Dark	5	156	401	63	2	34	661
Total	97	1,723	2,160	492	68	242	4,782

*Includes passengers

Table 6.20 **Selected Factors**
Relevant to HTA Reportable
Bicycle Accidents 1988

Factors	%
Driving Properly (Bicyclist)	45
Driving Properly (Motor Vehicle Driver)	48
Intersection Related	65
Going Ahead (Bicyclist)	81
Alcohol Related (Bicyclist)	2
No Apparent Vehicle Defect (Bicycle)	90
Clear Visibility	93
Weekend	21

7

**conviction
and
suspension
data**

Convictions for all motor vehicle related offences increased by 13.5% in 1988 compared to 1987. While convictions for drinking and driving decreased, convictions for offences under the Ontario Highway Traffic Act increased by 14.5%. Continuing the trend of many years, the preponderance of traffic convictions were registered against male drivers. As an example, 90% of suspensions for demerit point accumulation were applied against males.



7a. conviction data

Table 7.1 Summary of Motor Vehicle Related Convictions 1988

Convictions	Number
Highway Traffic Act	1,471,229
Regulation H.T.A.	3396
Criminal Code of Canada*	34,996
Municipal By-Law	26,450
Motor Vehicle Accident Claim/Compulsory Insurance Act	20,645
Total	1,556,716

* This figure does not include 280 convictions for young offenders under the Criminal Code.

Table 7.2 Motor Vehicle Convictions Related to the Highway Traffic Act

Convictions	Number
Equipment	33,368
Administrative*	123,339
Seat Belt (Driver & Passenger)**	87,358
Other Non-Pointable Convictions***	12,659
Speeding (< 16 km/h, non-pointable)	423,579
Pointable Speeding	477,814
Other Pointable Convictions (2 - 4 pt)	259,827
Other Pointable Convictions (5 - 7 pt)	20,870
Driving While Suspended	11,604
Total	1,450,418

* Non-moving, weight, vehicle registration, licence renewal, etc.

** Failure to wear seat belt convictions registered against passengers over 16 are no longer included

*** Now includes some out of province convictions

Table 7.3 Motor Vehicle Convictions Related to the Criminal Code 1988*

Convictions	Number
Alcohol Related	30,726
Criminal Negligence	43
Fail to Remain at Accident	1,146
Driving While Disqualified	1,891
Dangerous Driving	1,190
Total **	34,996

* Does not include 280 convictions for young offenders.

** Now includes some out of province convictions.

Alcohol related convictions under the Criminal Code of Canada showed a 5% decrease from 1987 figures and a 46% decrease compared to 1985.

7b. suspension data

Table 7.4 Mandatory Suspensions Related to Criminal Code Convictions Issued 1988*

Suspensions	3 Months	6 Months	1 Year	2 Years	3 Years	Total
Criminal Negligence (s.203,204)	-	-	22	8	4	34
Motor Manslaughter	-	-	-	-	-	-
Criminal Negligence (s.233-1)	2	-	-	-	1	3
Fail to Remain (s. 233-2)	8	5	616	332	153	1,114
Dangerous Driving	13	9	604	337	183	1,146
Impaired Driving (s. 234)	70	27	5,642	4,413	2,460	12,612
Blood / Alcohol over .08	57	9	7,170	4,957	2,582	14,775
Failure to Provide Breath Sample	14	12	1,207	868	471	2,572
Failure to Provide Roadside Breath Sample	3	1	-	-	1	5
Drive While Disqualified or Prohibited	-	-	1,498	356	33	1,887
Total	167	63	16,759	11,271	5,888	34,148

* Total issued during the calendar year.

New federal and provincial laws relating to drinking and driving took effect December 20, 1985. Individuals convicted of offences which occurred prior to that date were not subjected to the longer mandatory suspension periods of the new laws. Previously, the minimum suspensions imposed for a conviction for a driving violation under the Criminal Code of

Canada were 3 months for a first conviction, 6 months for the second conviction within five years and 3 years for a third conviction within five years. The new minimum suspension periods are 1 year for a first conviction, 2 years for a second conviction within five years and 3 years for a third conviction within five years.

Table 7.5 Mandatory Suspensions Related to Criminal Code Convictions at Year End 1988*

Suspensions	3 Months	6 Months	1 Year	2 Years	3 Years	Total
Criminal Negligence (s.203,204)	-	-	53	29	19	101
Motor Manslaughter	-	-	-	-	-	-
Criminal Negligence (s.233-1)	1	-	7	6	21	34
Fail to Remain (s. 233-2)	2	4	673	594	340	1,613
Dangerous Driving	-	-	784	581	429	1,794
Impaired Driving (s. 234)	20	14	6,430	7,155	4,956	18,575
Blood/Alcohol over .08	16	4	7,747	7,459	4,220	19,446
Failure to Provide Breath Sample	5	4	1,327	1,555	1,120	4,011
Failure to Provide Roadside Breath Sample	-	1	-	-	24	25
Drive While Disqualified or Prohibited	-	-	2,505	540	53	3,098
Total	43	27	19,526	17,919	11,182	48,697

This table reflects the suspensions in effect at year end. The total exceeds the number of suspensions issued in 1987 due to the fact that some suspensions are in effect for more than one year.

Table 7.6 **Demerit Point Suspensions by Driver Age 1988**

Driver Age	Demerit Point Suspensions		
	Probationary	Non-Probationary First Accumulation	Non-Probationary Second Accumulation
16	619	-	-
17	2,994	-	-
18	4,124	8	-
19	2,597	140	4
20-24	6,268	1,856	173
25-34	4,133	1,768	175
35-44	983	539	39
45-54	245	188	11
55-64	85	73	4
65-74	18	17	-
75+	3	9	1
Total	22,069	4,598	407

Newly licensed drivers are covered by the probationary licence system until they have successfully completed two one-year periods of suspension free driving. Probationary drivers are suspended for 30 days after accumulating 6 or more demerit points. Non-probationary drivers are suspended for 30 days on the first accumulation of 15 demerit points and

are suspended for 6 months on the second accumulation of 15 points within 2 years. There has been a 16% increase in the number of non-probationary drivers suspended for demerit point accumulation as well as a 24% increase in the number of probationary drivers suspended for demerit points.

89

ontario
road safety
annual
report

1

overview



1a. synopsis

In 1989, approximately 6.9% of the drivers and 7.7% of vehicles in the province were involved in accidents.

There were 1,286 people fatally injured in motor vehicle accidents, while 120,652 people suffered some degree of personal injury. The fatally injured comprised 627 drivers (not including motorcycle drivers), 373 were passengers, 161 pedestrians, 78 motorcycle drivers, and 8 motorcycle passengers. Other classes of road users accounted for 39 deaths.

In total, there were 247,038 accidents involving 464,355 vehicles. Of all accidents, 1,106 resulted in one or more people being killed, while in 77,852 accidents at least one person was injured.

In terms of alcohol involvement, tests for the presence of alcohol among drivers who were killed showed that 106 (16.9%) were legally impaired and 130 (20.7%) had consumed alcohol but were not found to be legally impaired.

People in the 16 - 20 year age group continue to be over-represented in accidents, and particularly in fatalities. In 1989, 112 motor vehicle and motorcycle drivers in this age group were killed and 10,292 were injured.

Selected Statistics

Total Reportable Accidents	247,038
Total Drivers Involved in Accidents	443,292
Total Vehicles Involved in Accidents	464,355
Fatal Accidents	1,106
Personal Injury Accidents	77,852
Property Damage Accidents	168,080
Persons Killed	1,286
Drivers Killed	705
Drivers Killed (Impaired or Had Been Drinking)	236
Passengers Killed	373
Pedestrians Killed	161
Other Road Users Killed	47
Persons Injured	120,652
Estimated Ontario Population (1989)	9,598,600
Licensed Drivers	6,290,424
Registered Motor Vehicles	6,018,063
Estimated Vehicle Kilometres Travelled (in millions)	76,917
Number of Persons Killed in Motor Vehicle Accidents per 100,000 People in Ontario	13.4
Number of Persons Killed in Motor Vehicle Accidents per 100 Million Kilometres Travelled	1.7
Accident Rate per 100 Million Kilometres Travelled	321.2
Fatal Accident Rate per 100 Million Kilometres Travelled	1.4

1b. selected characteristics of motor vehicle accidents in 1989

Note: The data for 1989 includes changes which were made in the accident reporting format which is used by the police forces in Ontario, and which forms the basis for the accident statistics compiled by the province of Ontario. This has accomplished two things. It has given us more comprehensive information about the road user environment, which will allow us to implement more effective accident reduction strategies; and it has resulted in changes in the ways in which the data are compiled. As a result, some of the information may not be directly comparable to that of previous years.

Persons Killed and Injured

In 1989, 1,286 people were killed in traffic accidents in Ontario. This represents a slight increase over the number of fatalities reported in 1988, however, it remains within the range first established in 1982. The number of driver fatalities has also remained fairly stable over the same period. Personal injuries increased to 120,652, an increase of 2% over the previous year. Most of the increase in the number of injuries was reported in the minimal and minor categories.

Road User Age

Young drivers continue to be over-represented in motor vehicle accidents relative to their share of the licensed driver population. While drivers under the age of 24 made up 15% of the driver population, they comprised 26% of the drivers involved in accidents. Almost one fifth of all sixteen year old drivers were involved in accidents.

Although older drivers are under-represented in all motor vehicle accidents, they were over represented in driver

fatalities. In 1989, 12.3% of drivers killed were over 65 years of age, while only comprising 5% of the drivers involved in accidents. The accident rate per kilometre travelled is highest for drivers aged 75 and over and for those aged 16 to 24 years of age. As well, older pedestrians were also over-represented in accidents. Of the 161 pedestrians killed, one third were over 65 years of age.

Driver Action

Drivers who were driving properly at the time of their collision continue to average around 45%. Failure to yield the right of way, speed too fast, loss of control and following too closely continue to be the most frequently reported driver errors in all accidents. Excessive speed continues to be the leading driver action, cited in 15.8% of fatal accidents. In fatal motorcycle accidents, excessive speed and loss of control were cited in 59% of these cases.

Alcohol Involvement

Alcohol involvement continued to be the leading non-normal driver condition reported in all accidents. Alcohol was involved in 37.6% of the drivers killed in 1989. Alcohol involvement tends to decrease with driver age. While almost 6% of drivers aged 20 who were involved in accidents reported alcohol consumption, this drops steadily as driver age increases. It can be said that inexperience with the driving task, in combination with inexperience in drinking, significantly increase accident risk. In addition, accident severity increases with alcohol involvement. Alcohol involvement was also a factor in pedestrian fatalities and injuries. Alcohol involvement was reported in 13% of pedestrians killed, and 8.4% of those injured. This is a decrease from previous years.

1c. the health perspective

Hospital Emergency Departments receive most people injured in motor vehicle accidents. The majority of those have sustained minimal or minor injuries and are therefore released without being admitted to hospital for in-patient care. However, people suffering major and severe injuries are admitted as in-patients. Detailed statistics are captured for in-patients and described below.

Between April 1, 1988 and March 31, 1989, there were 14,222 acute (short term) hospital admissions related to motor vehicle accidents.

The 14,222 acute hospital admissions resulted in 182,762 hospital days of stay during the fiscal year 1988-89, making the average stay per admission 12.8 hospital days.

According to data provided by the hospitals 6,043 patients underwent surgery in the course of their hospital treatment

Selected Diagnoses of Motor Vehicle Accident Injuries Hospitalized in Ontario, 1988/89

Selected Diagnoses	Hospital Admissions	Hospital Days of Stay
Fracture of skull	904	10,856
Fracture of neck and trunk	2,037	38,416
Fracture of upper limb	998	8,239
Fracture of lower limb	2,194	39,280
Dislocation, sprains and strains	640	3,628
Intracranial injury, excluding those with skull fracture	3,018	39,553
Internal injury of chest, abdomen and pelvis	811	9,384
Open wound of head, neck and trunk	566	2,147
Open wound of upper limb	104	655
Open wound of lower limb	142	1,205
Other injuries, burns and traumatic complications	2,808	29,399
Total Admissions and Days	14,222	182,762

and 309 patients died in the hospital subsequent to their admission for in-patient care.

Ninety-five per cent of those hospitalized were Ontario residents, 2% were Quebec residents, and the rest of the patients were residents of other Canadian provinces and the United States.

Selected Surgical Procedures for Motor Vehicle Accident Injuries Hospitalized in Ontario, 1988/89

Selected Procedures	Hospital Admissions	Hospital Days of Stay
Operations on skull, brain and cerebral meninges	314	12,775
Operations on spinal cord and canal structures	110	1,997
Operations on nose, mouth and pharynx	136	1,576
Operations on chest wall, pleura, mediastinum and diaphragm	115	1,622
Operations on bone marrow and spleen	149	4,013
Operations on kidney	135	1,162
Operation on facial bones and joints	295	5,413
Reduction of fracture and dislocation	2,473	40,714
Repair and plastic operations on joint structures	205	5,306
Operations on skin and subcutaneous tissue	1,000	7,235
Other surgical procedures	1,111	24,385
Sub-total of surgical admissions and days	6,043	106,198
No surgical procedures reported	8,179	76,564
Total Admissions and Days	14,222	182,762

2 the people

In 1989, there were 6,290,424 drivers licensed in the province of Ontario. This represents an increase of 172,312, or 2.73% over the 1988 figures. Traffic accidents resulted in 1,286 fatalities. Injuries also increased slightly, but the figures have remained fairly consistent over the last ten years.

Young, inexperienced drivers continue to be over-represented in traffic collisions. 219 people between the ages of 16 and 20 lost their lives in traffic accidents in 1989. Of these, 194 (89%) were drivers or passengers in motor vehicles (including motorcycles).

At the other end of the spectrum, it is becoming increasingly clear that older drivers are also over-represented in accident statistics. Drivers aged 75 and over have the

third highest accident involvement rate.

Eighty-eight children under 16 were killed in 1989. This represents a significant drop from the 113 children who died in traffic accidents in 1988. Fifty-four were passengers in motor vehicles, 21 were pedestrians and 8 were cyclists.

Although alcohol involvement remains the single most significant factor in accident fatalities, the trend over the last several years has seen a reduction in alcohol involvement in traffic accidents.



2a.

people in
accidents**Table 2.1** Category of Involved Person by Severity of Injury
in Fatal and Personal Injury Accidents 1989

Category of Involved Person	Severity of Injury					Total
	None	Minimal	Minor	Major	Fatal	
Driver	69,776	38,715	23,345	4,274	627	136,737
Passenger*	42,467	22,204	14,979	2,767	369	82,786
Pedestrian	158	2,239	2,965	983	161	6,506
Cyclist	80	2,052	1,687	281	33	4,133
Cyclist Passenger	12	83	50	6	-	151
All Terrain Vehicle Driver	7	5	13	6	-	31
All Terrain Vehicle Passenger	2	3	3	4	-	12
Snow Vehicle Driver	10	22	31	26	4	93
Snow Vehicle Passenger	4	6	9	10	1	30
Motorcycle Driver	175	1,076	1,332	537	78	3,198
Motorcycle Passenger	83	219	279	101	8	690
Moped Driver	9	16	18	4	-	47
Moped Passenger	2	3	1	-	-	6
Hanger On	47	43	51	45	4	190
Other	2,792	55	91	13	1	2,952
Total	115,624	66,741	44,854	9,057	1,286	237,562

* Includes bus passengers

Due to a change in the method of tabulating accident statistics, this table excludes the uninjured victims involved in property damage only accidents.

Almost 92.5%, or 111,595 of the 120,652 injuries reported in 1989, were minimal or minor in nature.

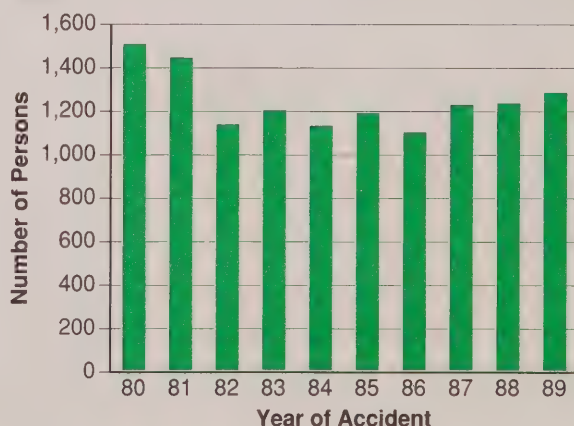
Figure 2.1 Persons Killed 1980 - 1989

Table 2.2 Category of Persons Killed by Age Groups 1989

Category of Persons	Age Groups																Total
	0-4	5-9	10-15	16	17	18	19	20	21-24	25-34	35-44	45-54	55-64	65-74	75+	UK	
Driver	-	-	3	10	13	12	21	26	81	179	98	48	57	46	31	2	627
Passenger*	18	11	25	14	15	20	19	12	39	65	29	18	27	38	23	-	373
Pedestrian	1	10	10	-	2	5	1	5	9	13	23	14	14	25	29	-	161
Cyclist	-	4	4	2	1	5	2	-	1	6	4	-	2	2	-	-	33
Cyclist Passenger	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All Terrain Vehicle Driver	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ATV Passenger	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Snow Vehicle Driver	-	-	1	-	1	-	-	-	-	1	-	1	-	-	-	-	4
Snow Vehicle Passenger	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1
Motorcycle Driver	-	-	-	2	5	10	5	8	21	18	7	1	1	-	-	-	78
Motorcycle Passenger	-	-	-	1	-	1	-	-	2	3	1	-	-	-	-	-	8
Moped Driver	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Moped Passenger	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Total	19	25	44	29	37	53	48	52	153	285	162	82	101	111	83	2	1,286

*Includes hanger on

Persons in the 16 to 24 year age group continue to be over-represented in fatalities, comprising 372 (28.9%) of those killed. Thirty-five of the fatalities in this age group were pedestrians, cyclists, snow vehicle drivers or snow vehicle passengers. While drivers in this age group only comprise 15.2% of all licensed drivers, their deaths (214) represent

30.4% of all driver fatalities.

Almost a quarter of the people killed were under the age of 20, and the number of children under the age of 16 who were killed in 1989 decreased slightly to 6.8% of the total number of fatalities.

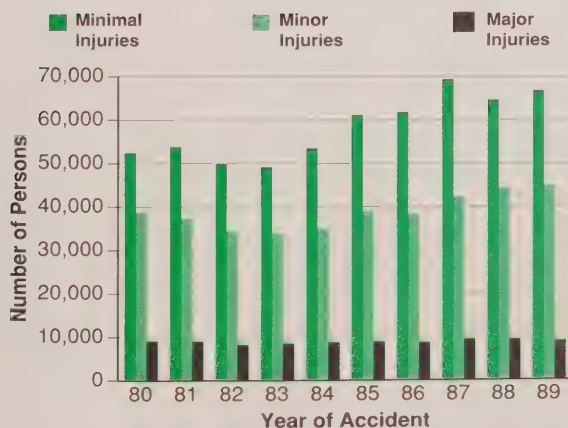
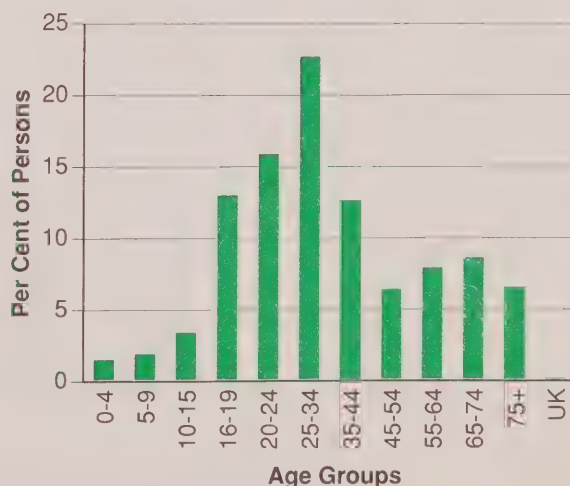
Figure 2.2 Persons Injured and Severity of Injuries 1980 - 1989**Figure 2.3** Per Cent of Total Persons Killed by Age 1989

Table 2.3 Category of Persons Injured by Age Groups 1989

Category of Persons	Age Groups																Total
	0-4	5-9	10-15	16	17	18	19	20	21-24	25-34	35-44	45-54	55-64	65-74	75+	UK	
Driver	7	8	81	1,056	1,725	2,113	2,171	2,162	9,112	19,425	13,078	7,578	4,601	2,205	909	103	66,334
Passenger*	1,881	2,421	3,520	1,453	1,540	1,682	1,543	1,384	4,629	7,499	4,151	2,962	2,363	1,605	822	626	40,081
Pedestrian	246	693	784	150	131	128	141	117	514	973	642	492	431	364	298	83	6,187
Cyclist	44	465	1,185	169	183	150	136	104	485	571	189	90	57	27	8	157	4,020
Cyclist Passenger	5	19	40	7	6	4	3	4	13	22	9	3	3	1	-	-	139
All Terrain Vehicle Driver	-	-	9	4	3	-	2	-	1	4	1	-	-	-	-	-	24
ATV Passenger	-	-	4	1	3	1	-	-	-	-	1	-	-	-	-	-	10
Snow Vehicle Driver	-	-	14	4	5	6	2	5	8	25	3	2	3	-	-	2	79
Snow Vehicle Passenger	-	2	5	1	2	1	-	3	3	6	1	1	-	-	-	-	25
Motorcycle Driver	1	-	24	117	174	268	241	265	717	737	259	95	28	12	1	6	2,945
Motorcycle Passenger	2	7	32	38	52	51	59	49	119	116	44	17	4	1	-	8	599
Moped Driver	-	-	-	2	4	3	2	3	4	5	5	3	2	5	-	-	38
Moped Passenger	1	-	1	-	1	-	-	-	-	-	-	-	1	-	-	-	4
Other	4	7	8	1	1	4	2	3	13	39	26	26	17	12	4	-	167
Total	2,191	3,622	5,707	3,003	3,830	4,411	4,302	4,099	15,618	29,422	18,409	11,269	7,510	4,232	2,042	985	120,652

*Includes hanger on

Fifty-one per cent of all cycling injuries are accounted for by children under the age of 18.

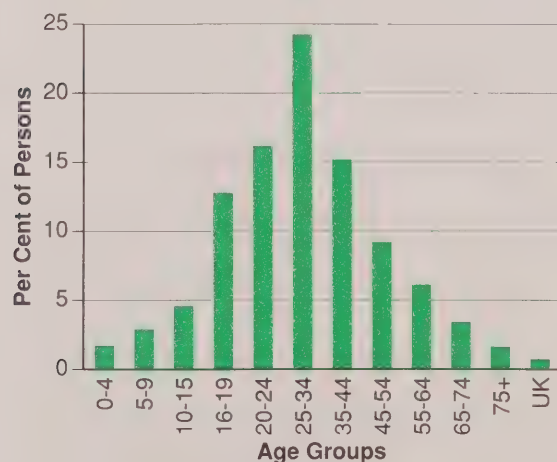
Figure 2.4 Per Cent of Total Persons Injured by Age 1989

Table 2.4 Sex of Driver by
Class of Accident 1989

Sex of Driver	Class of Accident			Total
	Fatal	Personal	Property	
		Injury	Damage	
Male	1,503	98,151	197,222	296,876
Female	360	43,699	79,765	123,824
Unknown	13	3,917	18,662	22,592
Total	1,876	145,767	295,649	443,292

While male drivers comprise 55% of the driver population, they account for 67% of the drivers involved in motor vehicle accidents. Male drivers were involved in 67% of personal injury accidents, and 83% of the fatal accidents.

Table 2.5 Driver Condition by
Class of Accident 1989

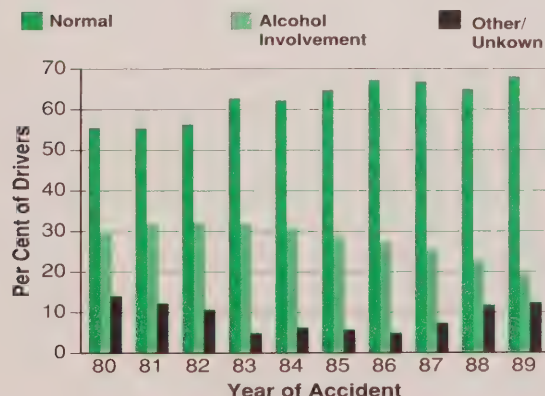
Condition of Driver	Class of Accident			Total
	Fatal	Personal	Property	
		Injury	Damage	
Normal	1,282	124,417	249,516	375,215
Had Been Drinking	194	4,409	5,608	10,211
Ability Impaired -				
Alcohol over .08	144	2,659	3,009	5,812
Ability Impaired Alcohol	24	919	810	1,753
Ability Impaired Drugs	1	77	93	171
Fatigue	29	807	890	1,726
Medical or Physical Defect	11	443	389	843
Inattentive	25	3,566	5,930	9,521
Other	15	195	326	536
Unknown	151	8,275	29,078	37,504
Total	1,876	145,767	295,649	443,292

Had Been Drinking Driver had consumed alcohol but his/her physical condition was not legally impaired.

Ability Impaired Alcohol over .08 Driver had consumed alcohol and upon testing was found to have a blood alcohol level in excess of 80 mg.

Ability Impaired Alcohol Driver had consumed sufficient alcohol to warrant being charged with a drinking and driving offence.

Inattentive Driver was operating a motor vehicle without due care and attention or placing less than full concentration on driving, e.g., changing radio stations, consuming food, reading, talking on phone or two-way radio, using headphones.

Figure 2.5 Per Cent Driver Condition in
Fatal Accidents
1980 - 1989

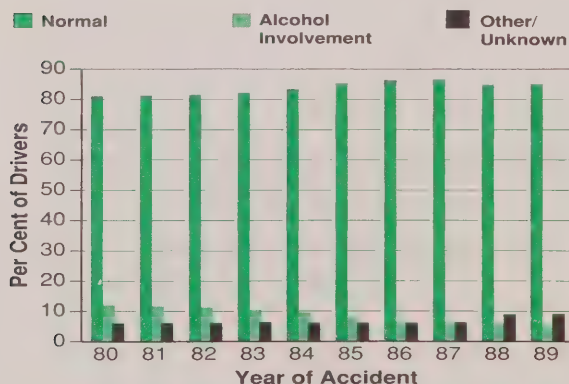
The condition of the driver was an increasingly significant factor as the severity of the accident increased. While alcohol consumption was a factor in 3.2% of property damage accidents, this increased to 5.5% of personal injury accidents and 19.3% of accidents involving fatalities. As is shown in Table 2.7, 37.6% of drivers killed were reported to have consumed alcohol.

Table 2.6 Driver Age by Driver Condition
In all Accidents 1989*

Driver Age	Driver Condition						Total
	Normal	Had Been Drinking	Impaired over .08	Ability Impaired	Other	Unknown	
Under 16	2,121	28	3	1	169	160	2,482
16	6,445	109	12	4	295	267	7,132
17	9,793	182	52	10	438	432	10,907
18	11,438	329	129	30	500	524	12,950
19	11,721	503	208	42	486	562	13,522
20	11,494	561	180	52	484	563	13,334
21-24	48,445	1,975	926	278	1,782	2,431	55,837
25-34	107,769	3,595	2,151	676	3,337	5,079	122,607
35-44	73,762	1,504	1,141	369	1,936	3,084	81,796
45-54	43,109	711	551	159	1,159	1,679	47,368
55-64	28,271	346	333	80	896	1,019	30,945
65-74	14,279	147	100	19	672	538	15,755
75 & over	5,347	33	6	4	440	229	6,059
Unknown	1,221	188	20	29	203	20,937	22,598
Total	375,215	10,211	5,812	1,753	12,797	37,504	443,292

* Includes bicyclists, drivers of all-terrain vehicles, etc.

Four per cent of the drivers involved in accidents in 1989 had consumed alcohol. Alcohol consumption was highest among twenty-year olds, with 5.95% of those involved in accidents having consumed alcohol. In contrast, alcohol consumption was reported in only 2.45% of those in the 55 to 64 year age group who were involved in collisions.

Figure 2.6 Per Cent Driver Condition in Personal Injury Accidents 1980 - 1989**Table 2.7** Recorded Occurrence of Alcohol
In Drivers Killed 1989*

Recorded Occurrence	Drivers Number	Drivers %
Apparently Normal	392	62.4
Had Been Drinking	119	19.0
Alcohol over .08	106	16.9
Ability Impaired Alcohol	11	1.7
Total	628	100.0

*Excludes cases where alcohol usage was unknown and cases where driver condition was other than normal or alcohol-involved.

While alcohol use was noted in 37.6% of drivers killed, over the past 10 years, the percentage continues to show a decline suggesting that drinking and driving is occurring less frequently.

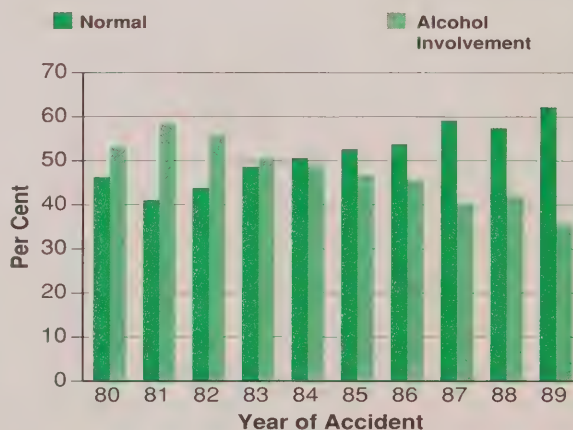
Figure 2.7 Per Cent Recorded Alcohol Occurrence in Drivers Killed 1980 - 1989

Table 2.8 **Apparent Driver Action by
Class of Accident 1989**

Apparent Driver Action	Class of Accident			Total
	Fatal	Personal Injury	Property Damage	
Driving Properly	796	68,087	129,720	198,611
Following Too Close	12	11,195	19,302	30,509
Speed Too Fast	168	2,594	2,952	5,714
Speed Too Fast for Conditions	129	9,927	20,423	30,479
Speed Too Slow	1	132	226	359
Improper Turn	28	4,725	13,970	18,723
Disobey Traffic Control	88	6,265	8,237	14,590
Fail to Yield				
Right of Way	100	14,453	31,067	45,620
Improper Passing	50	1,405	4,233	5,688
Lost Control	193	10,525	22,520	33,238
Wrong Way on				
One Way Road	2	148	266	416
Improper Lane Change	16	2,711	10,783	13,510
Other*	234	9,937	18,693	28,864
Unknown	59	3,663	13,249	16,971
Total	1,876	145,767	295,649	443,292

*Includes actions defined as careless driving, inattentive driving, fell asleep, hit and run, wrong side of road, improper parking, impaired, illegally parked, dangerous driving, inexperience, etc.

In 1989, 44.8% of drivers involved in all accidents, and 42.4% of those involved in fatal accidents, were driving properly. These figures compare closely to those of 1988. Failure to yield the right of way (10.3%), speed too fast and speed too fast for conditions (8.2%), loss of control (7.5%) and following too closely (6.9%) are the most frequently reported driver errors in all accidents. The most common error contributing to fatal accidents continues to be speed (15.8%).

Table 2.9 **Seat Belt Usage by Severity of Driver Injury in Fatal and Personal Injury Accidents 1989**

Safety Equipment Used	Severity of Injury					Total
	Killed	Major	Minor	Minimal	Not Injured	
Seat Belt Used	254	2,682	19,185	34,770	58,696	115,587
Other Equipment*	-	11	35	33	19	98
Equipment Not Used	291	1,048	2,841	2,401	2,285	8,866
Use Unknown	82	533	1,284	1,511	8,776	12,186
Total	627	4,274	23,345	38,715	69,776	136,737

* Other equipment includes helmets, including construction, motorcycle helmets, etc. worn in a motor vehicle. It also includes the use of airbags, however, seat belt usage in conjunction with airbag deployment is unknown.

The tables above and below only include seat belt usage in accidents in which there were personal injuries or fatalities. Property damage only accidents are excluded. It should be noted that in those ORSARs published prior to 1988, Tables 2.9 and 2.10 included seat belt usage in all accidents.

Commentary for Tables 2.10 and 2.11 (Tables on pg. 71):

A majority of young children are transported in child safety seats; therefore more will be killed or injured in these restraint systems. This does not mean that child safety seats are not effective. Some collisions are not survivable.

It is also known from observational surveys that many child safety seats are not used correctly. This is not clear in these tables since children are often removed from the child safety seats before the police officer arrives on the scene. Both correct installation of the seats according to the manufacturer's instructions and adequate securement of the child are important for protection. Eight of the children listed as killed in 1989 in Table 2.11 were ejected from the vehicle, totally unprotected.

Table 2.10 **Seat Belt Usage by Severity of Passenger Injury in Fatal and Personal Injury Accidents 1989**

Safety Equipment Used	Severity of Injury					Total
	Killed	Major	Minor	Minimal	Not Injured	
Seat Belt Used	141	1,522	10,584	17,779	29,501	59,527
Child Safety Seat						
Used Incorrectly	2	4	17	23	87	133
Child Safety Seat						
Used Correctly	6	22	231	425	1,999	2,683
Other Equipment*	-	4	14	19	29	66
Equipment Not Used	170	961	3,241	2,925	3,381	10,678
Use Unknown	54	299	943	1,076	7,517	9,889
Total	373	2,812	15,030	22,247	42,514	82,976

Table 2.11 Restraint Use for Children (0 - 4 Years) Killed in Accidents 1988 & 1989

Year	Child Restraint Used Correctly	Child Restraint Used Incorrectly	Lap/Lap & Shoulder Belt	Restraint Not Available	Available Not Used	Use Unknown	Total
1988	2	-	8	1	-	1	12
1989	6	2	3	2	-	5	18

**Table 2.12 Restraint Use for Children (0 - 4 Years)
Involved in Fatal and Personal Injury Accidents by Severity of Injury 1989**

Restraint Used	Injury Level		
	Major / Fatal %	Minimal/Minor %	No Injuries %
Child Restraint Used Correctly	23.1	33.6	37.3
Child Restraint Used Incorrectly	3.4	1.9	1.5
Lap /Lap-Shoulder Belt	39.3	47.9	39.5
Not Available	9.4	4.0	12.4
Available/Not Used	13.7	7.5	3.0
Unknown	11.1	5.1	6.3
Total	100.0	100.0	100.0

Note: Commentary for Tables 2.11 and 2.12 is on pg. 70.

**Table 2.13 Pedestrian Condition by
Severity of Injury 1989**

Condition of Pedestrian	Killed	Injured
Normal	60	4,447
Had Been Drinking	18	376
Ability Impaired Alcohol over .08	-	25
Ability Impaired Alcohol	3	120
Ability Impaired Drugs	-	3
Fatigue	-	2
Medical or Physical Defect	6	108
Inattentive	12	584
Other	4	87
Unknown	58	435
Total	161	6,187

Pedestrians who had been drinking or were impaired by alcohol accounted for 13% of pedestrian fatalities in 1989, down from 20% in 1988 and 30% in 1987. Pedestrian injuries while under the influence of alcohol were 8.5%, also showing a slight decrease over previous years. Alcohol, however, remains the most commonly noted condition in pedestrian fatalities. Table 2.13 also indicates that not paying attention to traffic conditions is a factor in 7.5% of pedestrian deaths and 9.4% of pedestrian injuries.

**Table 2.14 Apparent Pedestrian Action
by Severity of Injury 1989**

Apparent Pedestrian Action	Killed	Injured
Crossing Intersection With Right of Way	11	1,540
Crossing Intersection Without Right of Way	20	884
Crossing Intersection No Traffic Control	33	558
Crossing Pedestrian Crossover	4	209
Crossing Marked Crosswalk without Right of Way	6	151
Walking on Roadway With Traffic	17	174
Walking on Roadway Against Traffic	3	65
On Sidewalk or Shoulder	10	448
Playing or Working on Highway	3	135
Coming from Behind Parked Vehicle or Object	3	322
Running onto Roadway	18	910
Getting On/Off School Bus	1	12
Getting On/Off Vehicle	2	93
Pushing/Working on Vehicle	2	59
Other	28	627
Unknown	-	-
Total	161	6,187

Over half (54%) of all pedestrian injuries and 46% of pedestrian fatalities occurred in crossing actions. 12% of pedestrian fatalities occurred when crossing with the right of way, 20% when crossing without a traffic control and 12% when crossing without the right of way. Running onto the roadway continues to be the second most common factor in pedestrians killed (11%) and in pedestrians injured (14.7%). Walking on the roadway with traffic continues to be another serious action, accounting for 10.5% of pedestrian deaths in 1989.

2b.

putting
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in
context**Table 2.15** Category of Persons Killed and Injured 1980-1989

Year	Ontario Population (Est.)	Category of Persons											
		Driver		Passenger*		Pedestrian		All Others		Persons Killed In All Classes		Persons Injured In All Classes	
										Rate Per			
		Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured	Number	100,000	Number	100,000
1980	8,570,000	682	50,653	413	35,982	266	6,548	147	8,184	1,508	17.6	101,367	1,182.8
1981	8,625,000	657	50,574	393	34,450	237	6,344	158	8,953	1,445	16.8	100,321	1,163.1
1982	8,715,000	487	45,409	296	31,588	179	5,981	176	9,837	1,138	13.1	92,815	1,065.0
1983	8,816,000	528	45,440	302	30,283	204	5,618	170	10,365	1,204	13.7	91,706	1,040.2
1984	9,024,000	460	48,674	282	31,865	189	5,767	201	10,924	1,132	12.5	97,230	1,077.5
1985	9,066,000	502	55,859	333	35,717	182	6,099	174	11,494	1,191	13.1	109,169	1,204.2
1986	9,181,900	511	57,233	289	34,915	153	5,781	149	10,910	1,102	12.0	108,839	1,185.4
1987	9,270,700	545	64,588	318	39,596	187	5,939	179	10,966	1,229	13.3	121,089	1,306.2
1988	9,439,600	563	63,339	350	39,157	186	6,344	138	9,318	1,237	13.1	118,158	1,251.7
1989	9,598,600	627	66,334	369	39,950	161	6,187	129	8,181	1,286	13.4	120,652	1,257.0

*Excludes motorcycle passengers. Motorcycle passengers are included with "all others".

The number of people killed in motor vehicle accidents (1,286) is the highest since 1981. However, when the increasing population of the province of Ontario is considered, the rate is consistent with that of the last three years. The number of injuries has increased to 120,652, and while this too represents an increase over 1988, it remains within the average for the last ten years.

Table 2.16 Sex of Driver Population by Age Groups 1989

Sex of Driver	Age Groups							Total
	16-19	20-24	25-34	35-44	45-54	55-64	65+	
Male	181,177	346,714	874,521	746,040	516,791	420,372	382,226	3,467,841
Female	141,932	284,756	759,666	663,013	415,200	300,416	257,590	2,822,583
Total	323,109	631,470	1,634,187	1,409,053	931,991	720,788	639,826	6,290,424

Table 2.17 **Driver Population Age Groups 1980-1989**

Year	Age Groups							Total
	16-19	20-24	25-34	35-44	45-54	55-64	65+	
1980	345,077	647,805	1,300,738	943,540	764,368	584,173	407,830	4,993,471
1981	354,492	659,144	1,313,592	990,806	771,931	604,892	428,320	5,123,177
1982	342,136	670,118	1,328,974	1,051,422	779,235	628,131	447,182	5,247,198
1983	320,478	682,033	1,359,350	1,103,403	792,933	650,687	471,375	5,380,259
1984	300,364	689,476	1,396,560	1,155,421	806,207	671,271	494,612	5,513,911
1985	293,908	687,467	1,443,327	1,205,614	820,397	685,640	524,069	5,660,422
1986	295,107	676,283	1,494,658	1,257,724	840,322	697,254	556,451	5,817,799
1987	305,886	662,357	1,544,926	1,306,853	866,022	708,865	583,196	5,978,105
1988	310,764	643,691	1,588,516	1,353,841	898,103	714,266	608,931	6,118,112
1989	323,109	631,470	1,634,187	1,409,053	931,991	720,788	639,826	6,290,424

The number of drivers and the average driver age continues to increase. Since 1985, the 20 - 24 year age category has been declining in numbers.

Table 2.18 **Driver Licence Class by Sex 1989**

Licence Class	Driver Sex				Total	%
	Male	%	Female	%		
A	79,712	2.29	849	0.03	80,561	1.28
AM	26,265	0.75	130	0.00	26,395	0.41
AB	3,588	0.10	242	0.00	3,830	0.06
AC	10,645	0.30	159	0.00	10,804	0.17
ABM	1,702	0.04	78	0.00	1,780	0.02
ACM	4,945	0.14	35	0.00	4,980	0.07
B	17,165	0.49	15,771	0.55	32,936	0.52
BM	4,399	0.12	816	0.02	5,215	0.08
C	8,616	0.24	509	0.01	9,125	0.14
CM	2,225	0.06	50	0.00	2,275	0.03
D	185,905	5.36	6,568	0.23	192,473	3.05
DM	40,453	1.16	414	0.01	40,867	0.64
DE	107	0.00	19	0.00	126	0.00
DF	2,227	0.06	81	0.00	2,308	0.03
DEM	19	0.00	0	0.00	19	0.00
DFM	933	0.02	14	0.00	947	0.01
E	1,398	0.04	2,840	0.10	4,238	0.06
EM	183	0.00	62	0.00	245	0.00
F	8,473	0.24	5,217	0.18	13,690	0.21
FM	2,170	0.06	301	0.01	2,471	0.03
G	2,740,076	79.01	2,744,035	97.21	5,484,111	87.18
GM	322,063	9.28	43,760	1.55	365,823	5.81
M	4,572	0.13	633	0.02	5,205	0.08
Other	0	0.00	0	0.00	0	0.00
Total	3,467,841	100.00	2,822,583	100.00	6,290,424	100.00

Table 2.19 Licensed Drivers, Total Accidents, Persons Killed and Injured 1931-1989

Year	Licensed	Total	Persons	Persons
	Drivers	Accidents	Killed	Injured
1931	666,266	9,241	571	8,494
1932	648,710	9,171	502	8,231
1933	638,710	8,634	403	7,877
1934	665,743	9,645	512	8,990
1935	707,457	10,648	560	9,839
1936	755,765	11,388	546	10,251
1937	802,765	13,906	766	12,092
1938	866,729	13,715	640	11,683
1939	899,572	13,710	652	11,638
1940	937,551	16,921	716	13,715
1941	986,773	18,167	801	14,275
1942	961,883	13,490	567	10,205
1943	919,457	11,025	549	8,628
1944	905,650	11,004	498	8,373
1945	971,852	13,458	598	9,804
1946	1,087,445	17,356	688	12,228
1947	1,144,291	22,293	734	13,056
1948	1,209,408	27,406	740	14,970
1949	1,278,584	34,472	830	17,469
1950	1,366,388	43,681	791	19,940
1951	1,461,538	54,920	949	22,557
1952	1,556,559	58,515	1,010	23,643
1953	1,656,259	65,866	1,082	24,353
1954	1,747,567	62,509	1,045	24,607
1955	1,856,845	63,219	1,111	26,246
1956	1,967,789	71,399	1,180	28,626
1957	2,088,551	76,302	1,279	30,414
1958	2,176,417	76,884	1,112	30,106
1959	2,270,246	81,518	1,187	31,602
1960	2,355,567	87,186	1,166	34,436
1961	2,414,615	85,577	1,268	37,146
1962	2,469,425	94,231	1,383	41,766
1963	2,555,015	104,919	1,421	47,801
1964	2,694,023	111,232	1,424	54,560
1965	2,739,138	128,462	1,611	60,917
1966	2,821,648	139,781	1,596	65,210
1967	3,004,654	145,008	1,719	67,280
1968	3,128,509	155,127	1,586	71,520
1969	3,247,979	169,395	1,683	74,902
1970	3,422,892	141,609	1,535	75,126
1971	3,563,197	158,831	1,769	84,650
1972	3,688,541	189,494	1,934	95,181
1973	3,841,628	193,021	1,959	97,790
1974	3,972,980	204,271	1,748	98,673
1975	4,160,623	213,689	1,800	97,034
1976	4,315,925	211,865	1,511	83,736
1977	4,562,903	218,567	1,420	95,664
1978	4,725,546	286,363	1,450	94,979

(Cont'd)

Table 2.19

Licensed Drivers, Total Accidents, Persons Killed and Injured

Continued

Year	Licensed Drivers	Total Accidents	Persons Killed	Persons Injured
1979	4,858,351	197,196	1,560	101,321
1980	4,993,531	196,501	1,508	101,367
1981	5,123,177	198,372	1,445	100,321
1982	5,247,198	187,943	1,138	92,815
1983	5,380,259	181,999	1,204	91,706
1984	5,513,911	194,782	1,132	97,230
1985	5,660,422	189,750	1,191	109,169
1986	5,817,799	187,286	1,102	108,839
1987	5,978,105	203,431	1,229	121,089
1988	6,118,112	228,398	1,237	118,158
1989	6,290,424	247,038	1,286	120,652

Table 2.20

Original Licences Issued
1985-1989

Year	Original Licences
1985	224,513
1986	231,697
1987	257,372
1988	255,211
1989	279,814

Table 2.21

Temporary Licence Permits
Issued for Class L's and
Class R's 1985 - 1989

Year	Licence Permits	
	L	R
1985	352,908	43,967
1986	369,626	42,032
1987	348,866	38,426
1988	307,748	31,098
1989	320,921	27,167

Table 2.22 **Driver Age Groups - Number Licensed, Accident Involvement and Per Cent Involved in Accidents 1989**

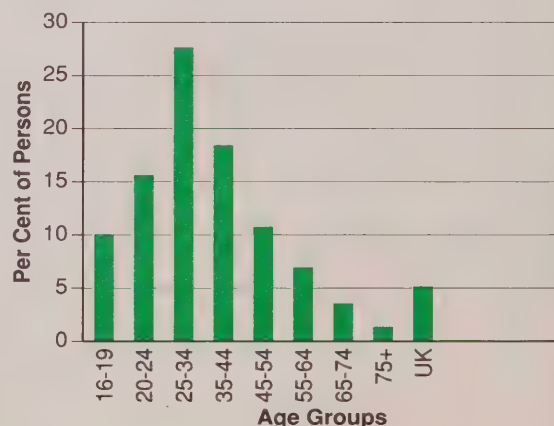
Drivers Age	Drivers Licensed			Drivers Involved in Accidents*			% of Drivers of Each Age Involved in Accidents		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Under 16	-	-	-	444	122	566	-	-	-
16	20,905	14,793	35,698	4,709	2,210	6,919	22.5	15.0	19.4
17	44,639	34,560	79,199	7,288	3,393	10,681	16.3	9.8	13.5
18	54,536	43,606	98,142	8,896	3,849	12,745	16.2	8.8	13.0
19	61,097	48,973	110,070	9,562	3,750	13,312	15.6	7.7	12.1
20	63,076	50,819	113,895	9,415	3,721	13,136	14.9	7.3	11.5
21-24	283,638	233,937	517,575	39,295	15,523	54,818	13.8	6.6	10.6
25-34	874,521	759,666	1,634,187	85,030	35,358	120,388	9.7	4.6	7.4
35-44	746,040	663,013	1,409,053	53,557	26,868	80,425	7.2	4.0	5.7
45-54	516,791	415,200	931,991	32,994	13,734	46,728	6.4	3.3	5.0
55-64	420,372	300,416	720,788	22,681	7,900	30,581	5.4	2.6	4.2
65-74	274,284	196,667	470,951	11,123	4,544	15,667	4.1	2.3	3.3
75 & Over	107,942	60,933	168,875	4,441	1,591	6,032	4.1	2.6	3.6
Unknown	-	-	-	-	-	22,097	-	-	-
Total	3,467,841	2,822,583	6,290,424	289,435	122,563	434,095	8.3	4.3	6.9

* This table excludes drivers of non motor vehicles, i.e. bicyclists, snow vehicle operators, etc.

Young, inexperienced drivers continue to show the greatest accident involvement. Of all 16 year old drivers, 19.4% were involved in accidents. In general, accident involvement decreases with age, however, it should be noted that accident involvement rates increase for drivers over the age of 75.

The 75+ age group showed an increase in driver population of 8.2% over 1988 while accident involvement for this group increased by 11.7%.

Consistently, male drivers are involved in accidents two to three times more than female drivers in the same age groups. The exposure rate for male drivers (number of kilometres driven) is also higher than that of female drivers.

Figure 2.8 **Per Cent of Licensed Drivers Involved in Accidents by Age 1989**

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1989 saw 247,038 reportable motor vehicle accidents in Ontario. Of these, 168,080 involved only property damage. There were 77,852 accidents in which there were personal injuries and 1,106 accidents which resulted in 1,286 fatalities.

The accident rate per million kilometres travelled remained at 3.2. The 77,852 personal injury accidents resulted in a total of 120,652 injuries. Of these, 111,595 were minimal or minor in nature.



3a. types of accidents

Table 3.1 Class of Accident 1980-1989

Year	Class of Accident			Total
	Personal		Property	
	Fatal	Injury	Damage	
1980	1,296	67,391	127,814	196,501
1981	1,234	67,292	129,846	198,372
1982	997	62,956	123,990	187,943
1983	1,042	62,735	118,222	181,999
1984	1,011	66,101	127,670	194,782
1985	1,036	73,840	114,874	189,750
1986	951	73,703	112,632	187,286
1987	1,085	80,432	121,914	203,431
1988	1,076	76,724	150,598	228,398
1989	1,106	77,852	168,080	247,038

The total number of accidents rose in 1989, with property damage accidents experiencing the greatest increase.

**Table 3.2 Accident Rate Per One Million
Kilometres Travelled 1980-1989**

Year	Accident Rate
1980	2.7
1981	2.8
1982	2.9
1983	2.8
1984	2.9
1985	2.8
1986	2.7
1987	2.8
1988	3.2
1989	3.2

**Table 3.3 Motor Vehicles Involved in Accidents
Based on Initial Impact 1989***

Motor Vehicle in Accident Involving	Class of Accident			Total
	Personal		Property	
Moveable Objects:	Fatal	Injury	Damage	
Other Motor Vehicle/s	1,114	114,569	246,937	362,620
Unattended Vehicles	3	1,321	16,812	18,136
Pedestrian	159	5,492	90	5,741
Cyclist	26	4,083	369	4,478
Railway Train	14	40	60	114
Street Car	0	67	347	414
Farm Tractor	0	42	105	147
Animal Domestic	1	127	434	562
Animal Wild	3	296	4,334	4,633
Other Moveable Objects	8	72	248	328
Sub-total	1,328	126,109	269,736	397,173

Fixed Objects:

Cable Guide Rail	3	132	682	817
Concrete Guide Rail	3	224	452	679
Steel Guide Rail	8	500	1,539	2,047
Pole (Utility Tower)	6	804	1,942	2,752
Pole (Sign/Parking Meter)	10	193	986	1,189
Fence/Noise Barrier	0	65	388	453
Culvert	2	52	52	106
Bridge Support	1	70	178	249
Rock Face	0	53	71	124
Snow Bank or Drift	1	101	288	390
Ditch	13	644	929	1,586
Curb	29	1,018	2,411	3,458
Crash Cushion	0	8	37	45
Building or Wall	1	62	245	308
Water Course	0	3	7	10
Construction Marker	2	20	75	97
Tree, Shrub or Stump	5	257	502	764
Other Fixed Object	6	433	1,647	2,086
Sub-total	90	4,639	12,431	17,160

Other Events

Ran Off Road	222	6,245	9,454	15,921
Skidding/Sliding	181	6,946	15,125	22,252
Jackknifing	1	52	205	258
Load Spill	2	14	89	105
Fire/Explosion	0	26	595	621
Submersion	0	1	4	5
Rollover	13	529	496	1,038
Debris on Road	5	112	381	498
Debris off Vehicle	8	164	575	747
Other Non-Collision Event	52	3,089	5,436	8,577
Sub-total	484	17,178	32,360	50,022

Total	1,902	147,926	314,527	464,355
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**Table 3.4 Initial Impact Type
by Class of Accident 1989**

Initial Impact Type	Class of Accident			Total
	Fatal	Personal Injury	Property Damage	
Approaching	181	2,721	3,708	6,610
Angle	109	9,718	17,257	27,084
Rear End	54	20,620	30,674	51,348
Sideswipe	26	3,541	16,631	20,198
Turning Movement	82	15,263	37,314	52,659
Single Motor Vehicle Unattended	6	1,116	16,231	17,353
Single Motor Vehicle Other	647	24,662	43,892	69,201
Other	1	211	2,373	2,585
Unknown	-	-	-	-
Total	1,106	77,852	168,080	247,038

* Table 3.3 now reflects the number of motor vehicles involved in accidents by initial impact.

3b

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Table 3.5 Month of Occurrence by Class of Accident 1989

Month of	Class of Accident						Total	%
Occurrence			Personal		Property			
	Fatal	%	Injury	%	Damage	%		
January	60	5.4	5,578	7.2	14,729	8.8	20,367	8.2
February	61	5.5	5,339	6.8	12,978	7.7	18,378	7.4
March	69	6.2	5,673	7.3	14,251	8.5	19,993	8.1
April	95	8.6	5,205	6.9	10,583	6.3	15,883	6.4
May	82	7.4	6,653	8.5	12,583	7.5	19,318	7.8
June	103	9.3	7,056	9.1	12,926	7.7	20,085	8.1
July	132	11.9	6,896	8.8	11,585	6.9	18,613	7.5
August	128	11.6	6,966	8.9	12,036	7.2	19,130	7.7
September	104	9.4	7,025	9.0	12,833	7.6	19,962	8.1
October	85	7.7	6,922	8.9	14,159	8.4	21,167	8.6
November	93	8.4	6,902	8.9	17,420	10.4	24,414	9.9
December	94	8.5	7,637	9.8	21,997	13.1	29,728	12.0
Total	1,106	100.0	77,852	100.0	168,080	100.0	247,038	100.0

The summer months were the worst for fatal accidents; almost one third of all fatal accidents occurred during the months of June, July and August. The greatest number of property damage accidents occurred with the onset of winter, with almost one quarter occurring during November and December. Collisions involving personal injury remain fairly constant in number throughout the year.

Table 3.6 Day of Week by Class of Accident 1989

Day of Occurrence	Class of Accident						Total	%
			Personal		Property			
	Fatal	%	Injury	%	Damage	%		
Sunday	170	15.4	8,744	11.2	17,190	10.2	26,104	10.6
Monday	135	12.2	9,892	12.7	21,209	12.6	31,236	12.6
Tuesday	108	9.8	10,883	14.0	23,818	14.2	34,809	14.1
Wednesday	134	12.1	10,697	13.7	23,260	13.8	34,091	13.8
Thursday	118	10.7	11,795	15.2	26,800	15.9	38,713	15.7
Friday	217	19.6	13,918	17.9	30,795	18.3	44,930	18.2
Saturday	224	20.2	11,923	15.3	25,008	14.9	37,155	15.0
Total	1,106	100.0	77,852	100.0	168,080	100.0	247,038	100.0

As in previous years, the largest proportion of accidents occurred on Fridays. Almost 40% of fatal collisions occurred on Fridays and Saturdays.

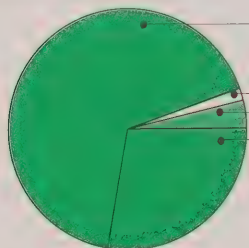
Table 3.7 **Hour of Occurrence by Class of Accident 1989**

Hour of	Class of Accident						Total	%
Occurrence A.M.			Personal		Property			
	Fatal	%	Injury	%	Damage	%		
12 to 1 a.m.	40	3.6	1,590	2.0	3,224	1.9	4,854	2.0
1 to 2 a.m.	57	5.2	1,909	2.5	3,711	2.2	5,677	2.3
2 to 3 a.m.	40	3.6	1,234	1.6	2,551	1.5	3,825	1.5
3 to 4 a.m.	27	2.5	709	0.9	1,482	0.9	2,218	0.9
4 to 5 a.m.	19	1.7	500	0.6	1,113	0.7	1,632	0.7
5 to 6 a.m.	17	1.5	536	0.7	1,266	0.8	1,819	0.7
Sub total	200	18.1	6,478	8.3	13,347	7.9	20,025	8.1
6 to 7 a.m.	34	3.1	1,650	2.1	3,783	2.2	5,467	2.2
7 to 8 a.m.	33	3.0	3,098	4.0	7,309	4.3	10,440	4.3
8 to 9 a.m.	51	4.6	4,586	5.9	10,734	6.4	15,371	6.2
9 to 10 a.m.	34	3.1	2,910	3.7	7,410	4.4	10,354	4.2
10 to 11 a.m.	45	4.0	3,164	4.1	7,654	4.6	10,863	4.4
11 to 12 noon	33	3.0	3,810	4.9	8,872	5.3	12,715	5.1
Sub total	230	20.8	19,218	24.7	45,762	27.2	65,210	26.4
Hour of								
Occurrence P.M.								
12 to 1 p.m.	44	4.0	4,494	5.8	9,588	5.7	14,126	5.7
1 to 2 p.m.	36	3.2	4,186	5.4	9,373	5.6	13,595	5.5
2 to 3 p.m.	57	5.2	4,528	5.8	9,821	5.9	14,406	5.9
3 to 4 p.m.	60	5.4	6,217	8.0	12,440	7.4	18,717	7.6
4 to 5 p.m.	71	6.4	6,779	8.7	13,945	8.3	20,795	8.4
5 to 6 p.m.	73	6.6	6,405	8.2	12,810	7.6	19,288	7.8
Sub total	341	30.8	32,609	41.9	67,977	40.5	100,927	40.9
6 to 7 p.m.	70	6.3	4,886	6.3	9,438	5.6	14,394	5.8
7 to 8 p.m.	64	5.8	3,923	5.0	7,565	4.5	11,552	4.7
8 to 9 p.m.	43	3.9	3,095	4.0	6,026	3.6	9,164	3.7
9 to 10 p.m.	58	5.2	2,834	3.6	5,957	3.5	8,849	3.6
10 to 11 p.m.	44	4.0	2,463	3.2	5,276	3.2	7,783	3.1
11 to 12 midnight	54	4.9	2,170	2.8	4,597	2.7	6,821	2.8
Sub total	333	30.1	19,371	24.9	38,859	23.1	58,563	23.7
Unknown	2	0.2	176	0.2	2,135	1.3	2,313	0.9
Total	1,106	100.0	77,852	100.0	168,080	100.0	247,038	100.0

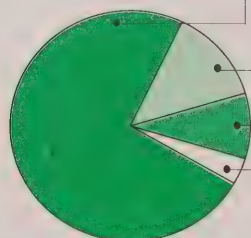
As can be expected, accidents occurred with the greatest frequency during rush hours, particularly afternoon rush hours. However, considering the lower volume of traffic, a disproportionate number of fatal accidents occurred from 6 p.m. to 12 a.m., and particularly between the hours of 1 a.m. to 2 a.m.

Table 3.8 Statutory Holidays, Holiday Weekends - Fatal Accidents, Persons Killed and Persons Injured 1989

Statutory Holiday	Number of Fatal Accidents	Drivers		Passengers		Others		Total	
		Killed	Injured	Killed	Injured	Killed	Total	Killed	Injured
Easter Weekend	6	3	3	1	2	2	-	6	5
Victoria Day	18	13	8	10	19	1	-	24	27
Canada Day	14	5	7	4	14	2	-	11	21
Civic Holiday (Simcoe Day)	20	12	10	4	15	1	-	17	25
Labour Day	19	8	9	7	17	2	-	17	26
Thanksgiving Day	14	8	8	8	10	1	-	17	18
Christmas/Boxing Day	15	8	7	4	14	1	-	13	21

Figure 3.1 Light Condition for All Accidents 1989**Table 3.9 Light Condition by Class of Accident 1989**

Light	Class of Accident						Total	%
Condition			Personal		Property			
	Fatal	%	Injury	%	Damage	%		
Daylight	587	53.2	52,769	67.8	111,582	66.3	164,938	66.7
Dawn	25	2.3	1,125	1.4	2,914	1.7	4,064	1.6
Dusk	48	4.4	2,863	3.6	6,277	3.7	9,188	3.7
Darkness	446	40.4	21,087	27.1	47,161	28.1	68,694	27.8
Other	-	0.0	8	0.0	146	0.1	154	0.1
Total	1,106	100.0	77,852	100.0	168,080	100.0	247,038	100.0

Figure 3.2 Visibility for All Accidents 1989**Table 3.10 Visibility by Class of Accident 1989**

Visibility	Class of Accident						Total	%
			Personal		Property			
	Fatal	%	Injury	%	Damage	%		
Clear	869	78.6	59,257	76.1	122,192	72.7	182,318	73.8
Rain	91	8.2	10,696	13.7	22,113	13.2	32,900	13.3
Snow	89	8.0	5,460	7.0	17,099	10.2	22,648	9.2
Freezing Rain	11	1.0	894	1.1	3,091	1.8	3,996	1.6
Drifting Snow	8	0.7	440	0.6	1,368	0.8	1,816	0.7
Strong Wind	3	0.3	127	0.2	330	0.2	460	0.2
Fog, Mist, Smoke or Dust	32	2.9	939	1.2	1,750	1.0	2,721	1.1
Other	3	0.3	39	0.1	137	0.1	179	0.1
Total	1,106	100.0	77,852	100.0	168,080	100.0	247,038	100.0

3c. the accident location

Table 3.11 Road Jurisdiction by Class of Accident 1989

Road Jurisdiction	Class of Accident			Total
		Personal	Property	
	Fatal	Injury	Damage	
Municipal (Excl. Twp. Rd.)	263	42,769	96,894	139,926
Provincial Highway	486	16,048	32,410	48,944
Township	98	3,732	8,052	11,882
County or District	124	3,057	5,592	8,773
Regional Municipality	129	11,886	24,222	36,237
Federal	6	254	680	940
Other	-	106	230	336
Total	1,106	77,852	168,080	247,038

Table 3.12 Road Jurisdiction for All Accidents 1980-1989

Road Jurisdiction	Year										Total
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	
Municipal	135,579	135,346	126,876	119,230	136,456	128,809	120,799	135,949	159,228	139,926	1,338,198
Provincial	34,780	35,584	33,246	32,667	36,110	38,976	38,002	40,825	44,772	48,944	383,906
Township	12,909	11,573	11,476	11,330	11,628	10,562	10,092	10,460	12,277	11,882	114,189
County or District	6,605	6,475	5,669	5,258	6,248	7,002	7,027	7,024	7,527	8,773	67,608
Regional Municipality	5,562	8,220	9,722	12,592	3,393	3,166	10,185	7,863	3,620	36,237*	100,560
Federal**	-	-	-	-	-	-	-	-	748	940	1,688
Other	1,066	1,174	954	922	947	1,235	1,181	1,310	226	336	9,351
Total	196,501	198,372	187,943	181,999	194,782	189,750	187,286	203,431	228,398	247,038	2,015,500

*Some accidents occurring on regional municipal roads were recorded as occurring on municipal roads prior to 1989.

**The new police accident reporting form allows the recording of jurisdiction for federal roads.

**Figure 3.3 Road Location
for All Accidents
1989**

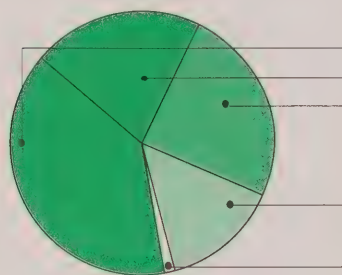


Table 3.13 Road Location by Class of Accident 1989

Road Location	Class of Accident						Total	%
			Personal		Property			
	Fatal	%	Injury	%	Damage	%		
Non-intersection	714	64.6	29,004	37.2	66,563	39.6	96,281	39.0
Intersection Related	88	8.0	16,331	21.0	35,382	21.0	51,801	21.0
In Intersection	194	17.5	22,261	28.6	37,518	22.3	59,973	24.3
At/Near Private Drive	72	6.5	9,302	11.9	26,357	15.7	35,731	14.5
At Railway	14	1.3	174	0.2	345	0.2	533	0.2
Underpass or Tunnel	5	0.4	91	0.1	242	0.1	338	0.1
Overpass or Bridge	15	1.4	573	0.7	1,314	0.8	1,902	0.8
Other	4	0.4	116	0.1	359	0.2	479	0.2
Total	1,106	100.0	77,852	100.0	168,080	100.0	247,038	100.0

**Figure 3.4 Road Surface
Condition
for All Accidents
1989**

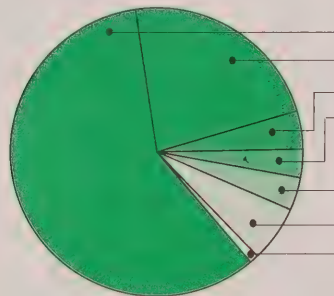


Table 3.14 Road Surface Condition by Class of Accident 1989

Road Surface	Class of Accident						Total	%
Condition			Personal		Property			
	Fatal	%	Injury	%	Damage	%		
Dry	755	68.3	48,980	62.9	95,452	56.8	145,187	58.8
-Wet	181	16.4	18,299	23.5	37,980	22.6	56,460	22.8
-Loose Snow	26	2.4	2,361	3.0	8,237	4.9	10,624	4.3
-Slush	37	3.3	1,952	2.5	5,886	3.5	7,875	3.2
-Packed Snow	43	3.9	1,850	2.4	7,183	4.3	9,076	3.7
-Ice	46	4.2	3,617	4.6	11,808	7.0	15,471	6.3
Mud	-	0.0	42	0.1	130	0.1	172	0.1
-Loose Sand or Gravel	15	1.4	568	0.7	1,065	0.6	1,648	0.7
-Spilled Liquid	-	0.0	63	0.1	49	0.0	112	0.0
-Other	3	0.3	120	0.2	290	0.2	413	0.2
Total	1,106	100.0	77,852	100.0	168,080	100.0	247,038	100.0

4

place of
accident in
Ontario

Table 4.1 **Place of Accident - Estimated Population, Class of Accident,
Persons Killed, Persons Injured and
Vehicle Registrations 1989**

Location	Estimated Population (1988)*	Class of Accident				Persons		Motor Vehicle Registrations
		Total Accidents	Fatal	Personal Injury	Property Damage	Killed	Injured	
Ontario	9,096,294	247,038	1,106	77,852	168,080	1,286	120,652	6,018,063
Algoma	117,339	3,707	19	1,018	2,670	22	1,600	85,516
Blind River, t	3,263	46	-	13	33	-	16	
Elliot Lake, t M	16,229	188	1	35	152	1	43	
Sault Ste. Marie, c M	78,568	2,354	6	623	1,725	8	996	
Thessalon, t	1,532	15	-	1	14	-	3	
Provincial Highway	-	770	12	255	503	13	414	
Other Areas	17,747	334	-	91	243	-	128	
Brant	102,085	2,419	16	862	1,541	18	1,279	68,478
Brantford, c M	75,465	1,400	5	502	893	6	706	
Brantford, twp	6,445	3	-	-	3	-	-	
Burford, twp	5,497	2	-	-	2	-	-	
Paris, t M	7,907	93	-	29	64	-	34	
Provincial Highway	-	428	5	164	259	6	275	
Other Areas	6,771	493	6	167	320	6	264	
Bruce	57,119	1,097	14	339	744	17	595	45,850
Amabel, twp	3,155	4	-	2	2	-	3	
Brant, twp	3,288	1	-	-	1	-	-	
Carrick, twp	2,268	5	-	2	3	-	2	
Chesley, t	1,790	9	1	4	4	1	7	
Culross, twp	1,539	2	-	1	1	-	2	
Kincardine, t M	5,734	68	1	13	54	1	14	
Port Elgin, t M	5,909	85	-	30	55	-	47	
Saugeen, twp	1,589	2	-	1	1	-	1	
Southampton, t M	2,695	39	-	12	27	-	14	
Walkerton, t M	4,687	57	-	10	47	-	15	
Warton, t	2,080	19	-	4	15	-	6	
Provincial Highway	-	258	3	90	165	3	190	
Other Areas	22,385	548	9	170	369	12	294	
Cochrane	84,846	2,091	14	626	1,451	16	1,001	58,588
Cochrane, t	4,370	56	-	14	42	-	16	
Hearst, t	5,239	72	-	17	55	-	21	
Iroquois Falls, t	5,895	69	-	7	62	-	8	
Kapuskasing, t M	10,830	143	-	30	113	-	50	
Smooth Rock Falls, t	2,052	7	-	-	7	-	-	
Timmins, c M	46,065	799	1	254	544	1	377	
Provincial Highway	-	699	11	223	465	13	416	
Other Areas	10,395	246	2	81	163	2	113	

Legend	t town	Other Areas -	Jurisdictions	M Municipal Police Force
	c city		with less than	
	vl village		1,500 population	
	twp township			

Table 4.1 Continued

Location		Estimated	Class of Accident				Persons		Motor Vehicle
		Population	Total		Personal	Property			Registrations
		(1988)	Accidents	Fatal	Injury	Damage	Killed	Injured	
Dufferin		34,452	1,169	8	352	809	16	583	26,564
Amaranth, twp		2,821	1	-	-	1	-	-	
East Garafraxa, twp		1,916	2	-	2	-	-	2	
Mono, twp		4,901	4	-	-	4	-	-	
Mulmer, twp		2,166	1	-	1	-	-	2	
Orangeville, t	M	15,293	370	1	88	281	1	149	
Shelburne, t	M	3,123	35	-	6	29	-	13	
Provincial Highway		-	298	3	106	189	4	183	
Other Areas		4,232	458	4	149	305	11	234	
Dundas		19,462	422	8	128	286	9	206	14,820
Morrisburg, vl		2,237	21	-	5	16	-	8	
Mountain, twp		3,064	1	-	-	1	-	-	
Williamsburg, twp		3,178	1	-	1	-	-	3	
Winchester, twp		3,083	15	-	3	12	-	4	
Winchester, vl		2,167	3	-	1	2	-	1	
Provincial Highway		-	193	7	65	121	8	116	
Other Areas		5,733	188	1	53	134	1	74	
Durham	M	347,837	9,095	48	2,821	6,226	54	4,492	260,724
Ajax, t		45,046	677	-	188	489	-	282	
Brock, twp		10,082	73	2	17	54	2	32	
Newcastle, t		37,769	548	7	182	359	8	299	
Oshawa, c		120,904	2,941	11	908	2,022	13	1,406	
Pickering, t		56,132	871	2	264	605	2	377	
Scugog, twp		15,675	163	2	57	104	2	102	
Uxbridge, twp		12,281	177	2	63	112	2	112	
Whitby, t		49,948	1,117	2	362	753	2	550	
Provincial Highway		-	1,883	11	594	1,278	13	1,045	
Other Areas		-	645	9	186	450	10	287	
Elgin		69,174	1,422	10	557	855	11	881	51,851
Aldborough, twp		2,546	2	-	-	2	-	-	
Aylmer, t	M	5,457	118	-	19	99	-	22	
Dunwich, twp		2,025	1	-	-	1	-	-	
Port Stanley, vl		1,826	11	-	2	9	-	2	
St. Thomas, c	M	28,405	452	2	188	262	2	277	
Yarmouth, twp		7,781	3	-	2	1	-	2	
Provincial Highway		-	431	6	191	234	7	355	
Other Areas		21,134	404	2	155	247	2	223	
Essex		314,952	7,486	52	2,708	4,726	54	4,181	197,091
Amherstburg, t	M	8,211	84	-	29	55	-	40	
Anderdon, twp	M	4,992	11	-	4	7	-	7	
Belle River, t		3,764	31	-	8	23	-	11	
Colchester South, twp	M	4,815	6	-	3	3	-	3	
Essex, t	M	6,252	67	-	16	51	-	19	
Gosfield North, twp		3,913	1	-	1	-	-	1	
Gosfield South, twp		7,362	1	-	-	1	-	-	
Harrow, t		2,395	27	-	10	17	-	14	
Kingsville, t	M	5,332	48	1	19	28	1	30	

Table 4.1 Continued

Location		Estimated Population (1988)	Class of Accident				Persons		Motor Vehicle Registrations
			Total Accidents	Fatal	Personal Injury	Property Damage	Killed	Injured	
Leamington, t	M	12,764	331	-	78	253	-	105	
Maidstone, twp		8,850	5	-	2	3	-	3	
Malden, twp		3,095	1	-	-	1	-	-	
Mersea, twp	M	8,464	2	-	1	1	-	1	
Rochester, twp		4,272	2	-	1	1	-	1	
Sandwich South, twp		4,943	8	-	3	5	-	4	
Sandwich West, twp	M	14,629	9	-	4	5	-	4	
St. Clair Beach, vl	M	3,367	15	-	6	9	-	8	
Tecumseh, t		8,873	105	-	40	65	-	56	
Tilbury North, twp		3,028	2	-	1	1	-	1	
Windsor, c	M	190,198	4,874	15	1,718	3,141	15	2,594	
Provincial Highway		-	663	15	282	366	15	502	
Other Areas		5,433	1,193	21	482	690	23	777	
Frontenac		119,332	3,185	13	978	2,194	17	1,446	79,594
Kingston, c	M	57,382	1,574	1	445	1,128	1	599	
Kingston, twp		32,774	14	-	3	11	-	4	
Loughborough, twp		3,475	3	-	1	2	-	5	
Pittsburgh, twp		10,848	5	-	1	4	-	1	
Portland, twp		4,173	3	-	-	3	-	-	
Storrington, twp		3,247	2	-	1	1	-	1	
Provincial Highway		-	731	7	249	475	9	419	
Other Areas		15,081	853	5	278	570	7	417	
Glengarry		21,164	549	7	167	375	8	256	15,453
Alexandria, t	M	3,229	95	-	23	72	-	28	
Charlottenburg, twp		7,004	2	-	-	2	-	-	
Kenyon, twp		3,092	1	-	1	-	-	1	
Lancaster, twp		3,362	5	-	2	3	-	3	
Lochiel, twp		2,932	3	-	2	1	-	4	
Provincial Highway		-	232	3	85	144	4	140	
Other Areas		1,545	211	4	54	153	4	80	
Grenville		28,030	772	3	226	543	3	345	21,288
Augusta, twp		6,811	2	-	-	2	-	-	
Cardinal, vl	M	1,578	7	-	1	6	-	1	
Edwardsburg, twp		4,316	2	-	-	2	-	-	
Kemptville, t	M	2,491	20	-	3	17	-	4	
Oxford-on-Rideau, twp		4,603	2	-	1	1	-	1	
Prescott, t	M	4,413	76	-	26	50	-	37	
Provincial Highway		-	317	2	89	226	2	163	
Other Areas		3,818	346	1	106	239	1	139	
Grey		75,157	1,691	24	564	1,103	28	937	51,907
Bentinck, twp		3,090	1	-	-	1	-	-	
Durham, t	M	2,487	43	-	12	31	-	28	
Egremont, twp		2,174	1	-	-	1	-	-	
Hanover, t	M	6,327	113	-	30	83	-	52	
Holland, twp		2,440	1	-	1	-	-	1	
Meaford, t	M	4,283	59	-	20	39	-	24	
Owen Sound, c	M	19,913	414	-	142	272	-	213	

Table 4.1 Continued

Location	Estimated Population (1988)	Class of Accident				Persons		Motor Vehicle Registrations
		Total Accidents	Fatal	Personal Injury	Property Damage	Killed	Injured	
Sarawak, twp	2,619	1	-	-	1	-	-	
Sydenham, twp	2,596	1	-	-	1	-	-	
Thornbury, t	M 1,458	15	-	3	12	-	14	
Provincial Highway	-	399	8	144	247	12	258	
Other Areas	27,768	645	16	212	417	16	347	
Haldimand-Norfolk M	89,225	2,081	24	654	1,403	27	1,072	72,110
Delhi, twp	14,539	158	1	52	105	1	78	
Dunnville, t	11,323	161	2	45	114	2	55	
Haldimand, t	18,211	117	1	41	75	1	71	
Nanticoke, c	20,441	250	1	74	175	1	116	
Norfolk, twp	10,514	69	2	32	35	2	50	
Simcoe, t	14,197	318	-	76	242	-	126	
Provincial Highway	-	456	10	159	287	12	294	
Other Areas	-	552	7	175	370	8	282	
Haliburton	11,984	573	4	180	389	4	310	10,263
Anson, Hindon & Minden, twp	2,683	3	-	1	2	-	1	
Dysart, et al, twp	3,928	12	-	2	10	-	2	
Provincial Highway	-	304	3	93	208	3	177	
Other Areas	5,373	254	1	84	169	1	130	
Halton M	281,668	7,214	32	2,021	5,161	35	3,136	205,314
Burlington, c	118,546	1,951	5	548	1,398	6	802	
Halton Hills, t	34,189	710	6	212	492	7	308	
Milton, t	30,529	703	5	205	493	6	331	
Oakville, t	98,404	1,609	3	411	1,195	3	633	
Provincial Highway	-	2,174	12	622	1,540	12	1,032	
Other Areas	-	67	1	23	43	1	30	
Hamilton-Wentworth M	429,466	11,249	33	3,932	7,284	38	6,116	253,984
Ancaster, t	19,728	280	1	97	182	1	160	
Dundas, t	20,640	288	1	83	204	1	133	
Flamborough, t	27,116	275	2	101	172	3	172	
Glanbrook, twp	9,493	82	-	33	49	-	66	
Hamilton, c	307,160	7,718	10	2,753	4,955	10	4,130	
Stoney Creek, c	45,329	697	2	265	430	2	438	
Provincial Highway	-	1,777	17	563	1,197	21	967	
Other Areas	-	132	-	37	95	-	50	
Hastings	106,240	2,934	18	831	2,085	30	1,305	82,057
Bancroft, vl	2,248	39	-	5	34	-	5	
Belleville, c	M 35,326	1,002	-	222	780	-	314	
Deseronto, t	M 1,774	23	-	3	20	-	3	
Frankford, vl	2,020	16	-	6	10	-	8	
Hungerford, twp	2,589	2	-	1	1	-	1	
Madoc, twp	1,597	5	-	2	3	-	2	
Rawdon, twp	2,432	1	-	1	-	-	1	
Sidney, twp	15,791	7	-	2	5	-	4	
Stirling, vl	M 1,880	17	-	3	14	-	6	
Trenton, c	M 14,765	340	-	96	244	-	134	
Tweed, vl	M 1,549	30	-	7	23	-	8	

Table 4.1 Continued

Location	Estimated Population (1988)	Class of Accident				Persons		Motor Vehicle Registrations
		Total Accidents	Fatal	Personal Injury	Property Damage	Killed	Injured	
Tyendinaga, twp	2,651	2	-	-	2	-	-	
Provincial Highway	-	767	16	271	480	28	510	
Other Areas	21,618	683	2	212	469	2	309	
Huron	55,589	1,001	10	299	692	12	465	37,862
Clinton, t	M 3,091	43	-	7	36	-	10	
Exeter, t	M 3,767	64	-	20	44	-	23	
Goderich, t	M 7,348	142	-	36	106	-	46	
Goderich, twp	2,319	4	-	-	4	-	-	
Hay, twp	1,918	2	-	-	2	-	-	
Morris, twp	1,659	1	-	-	1	-	-	
Seaforth, t	M 2,100	40	-	5	35	-	6	
Stephen, twp	4,085	1	-	-	1	-	-	
Tuckersmith, twp	2,904	1	-	1	-	-	1	
Wingham, t	M 2,970	52	-	9	43	-	9	
Provincial Highway	-	291	4	111	176	5	206	
Other Areas	23,428	360	6	110	244	7	164	
Kenora	35,150	1,488	13	345	1,130	16	570	33,836
Dryden, t	M 6,219	116	-	16	100	-	22	
Ignace, twp	1,979	3	-	1	2	-	1	
Jaffray and Melick, t	3,651	19	-	6	13	-	10	
Keewatin, t	1,974	21	-	6	15	-	13	
Kenora, t	M 9,373	270	-	34	236	-	45	
Red Lake, twp	2,063	1	-	-	1	-	-	
Sioux Lookout, t	3,027	64	-	16	48	-	23	
Provincial Highway	-	723	12	188	523	15	332	
Other Areas	6,864	271	1	78	192	1	124	
Kent	105,176	2,272	14	752	1,506	16	1,163	76,493
Blenheim, t	4,336	32	-	10	22	-	14	
Camden, twp	2,259	1	-	-	1	-	-	
Chatham, c	M 41,840	959	-	262	697	-	373	
Chatham, twp	6,369	2	-	1	1	-	9	
Dover, twp	3,974	1	-	-	1	-	-	
Dresden, t	M 2,546	21	-	10	11	-	11	
Harwich, twp	6,089	4	-	3	1	-	5	
Ridgetown, t	3,152	27	-	12	15	-	15	
Romney, twp	1,846	1	-	-	1	-	-	
Tilbury, t	M 4,186	83	-	28	55	-	40	
Tilbury East, twp	2,310	1	-	-	1	-	-	
Wallaceburg, t	M 11,462	169	-	56	113	-	79	
Wheatley, vl	1,539	13	-	3	10	-	3	
Provincial Highway	-	400	9	154	237	10	282	
Other Areas	13,268	558	5	213	340	6	332	
Lambton	119,528	2,418	13	677	1,728	18	1,027	84,629
Bosanquet, twp	4,415	12	-	1	-	-	1	
Brooke, twp	1,840	1	-	1	-	-	2	
Clearwater, t	M 24,429	578	1	117	460	2	155	
Enniskillen, twp	3,144	1	-	-	1	-	-	

Table 4.1 Continued

Location	Estimated Population (1988)	Class of Accident				Persons		Motor Vehicle
		Total		Personal	Property			Registrations
		Accidents	Fatal	Injury	Damage	Killed	Injured	
Forest, t		2,555	25	-	10	15	-	12
Petrolia, t	M	4,168	67	1	11	55	1	13
Plympton, twp		4,860	2	-	-	2	-	-
Point Edward, vl	M	2,216	26	-	11	15	-	12
Sarnia, c	M	46,448	1,116	4	265	847	4	404
Warwick, twp		2,433	2	-	2	-	-	2
Wyoming, vl		1,824	13	-	4	9	-	7
Provincial Highway		-	319	-	113	206	-	185
Other Areas		21,376	267	7	142	118	11	234
Lanark		49,483	1,183	17	363	803	22	537
Almonte, t		4,026	36	1	8	27	3	9
Beckwith, twp		3,648	1	-	-	1	-	-
Carleton Place, t	M	6,634	120	2	31	87	2	41
Pakenham, twp		1,644	2	-	1	1	-	1
Perth, t	M	5,463	125	1	41	83	1	64
Ramsay, twp		3,132	1	-	-	1	-	-
Smiths Falls, t	M	9,047	205	1	70	134	1	99
Provincial Highway		-	278	7	96	175	10	151
Other Areas		15,889	415	5	116	294	5	172
Leeds		55,136	1,436	11	443	982	13	742
Bastard & S.Burgess, twp		2,379	1	-	-	1	-	-
Brockville, c	M	20,607	433	-	87	346	-	124
Elizabethtown, twp		6,711	1	-	-	1	-	-
Ft.Leeds & Lansdowne, twp		4,413	10	-	4	6	-	9
Gananoque, t	M	4,866	66	-	17	49	-	20
Provincial Highway		-	555	8	207	340	10	397
Other Areas		16,160	394	3	136	255	3	210
Lennox & Addington		32,998	833	6	271	556	11	435
Ernestown, twp		11,108	8	-	-	8	-	-
Napanee, t	M	4,604	118	-	35	83	-	51
Richmond, twp		3,624	2	-	2	-	-	3
Provincial Highway		-	397	3	140	254	8	244
Other Areas		13,662	308	3	94	211	3	137
Manitoulin		6,771	278	7	94	177	7	157
Middlesex		344,586	8,774	33	3,267	5,474	37	4,954
Ekfrid, twp		2,020	1	-	-	1	-	-
Glencoe, vl		1,801	25	-	7	18	-	10
London, c	M	281,745	6,619	8	2,452	4,159	10	3,587
London, twp		5,626	8	-	4	4	-	7
Lucan, vl		1,740	17	-	6	11	-	6
McGillivray, twp		1,797	1	-	-	1	-	-
Strathroy, t	M	9,186	107	-	33	74	-	50
Westminster, t		6,062	31	1	14	16	1	22
Provincial Highway		-	989	16	378	595	18	643
Other Areas		34,609	976	8	373	995	8	629
Muskoka		39,958	1,541	9	442	1,090	12	707

Table 4.1 Continued

Location	Estimated Population (1988)	Class of Accident				Persons		Motor Vehicle Registrations
		Total Accidents	Fatal	Personal Injury	Property Damage	Killed	Injured	
Bracebridge, t	9,968	177	-	50	127	-	72	
Georgian Bay, twp	1,890	3	-	-	3	-	-	
Gravenhurst, t	8,624	100	-	28	72	-	39	
Huntsville, t	12,320	110	-	41	69	-	61	
Lake of Bays, twp	2,305	2	-	1	1	-	2	
Muskoka Lakes, twp	4,851	13	-	5	8	-	9	
Provincial Highway	-	645	6	186	453	8	320	
Other Areas	-	491	3	131	357	4	204	
Niagara	M 365,197	10,731	38	2,960	7,733	44	4,728	255,589
Fort Erie, t	23,486	511	2	137	372	2	223	
Grimsby, t	16,996	277	-	86	191	-	125	
Lincoln, t	14,335	282	-	74	208	-	116	
Niagara Falls, c	70,540	2,112	4	546	1,562	6	854	
Niagara-on-the-Lake, t	12,050	185	3	49	133	3	75	
Pelham, t	12,430	170	1	40	129	1	65	
Port Colborne, c	17,893	371	-	93	278	-	135	
St. Catharines, c	120,567	2,784	3	749	2,032	3	1,098	
Thorold, c	16,589	271	1	68	202	1	98	
Wainfleet, twp	5,809	52	1	16	35	1	27	
Welland, c	44,569	1,243	1	279	963	1	403	
West Lincoln, twp	9,933	110	4	38	68	4	64	
Provincial Highway	-	1,810	12	618	1,180	15	1,180	
Other Areas	-	553	6	167	380	7	265	
Nipissing	74,599	2,155	13	730	1,412	15	1,168	51,031
Caldwell, twp	1,569	3	-	-	3	-	-	
East Ferris, twp	3,496	3	-	-	3	-	-	
Mattawa, t	2,491	18	-	3	15	-	3	
North Bay, c	M 51,313	1,040	-	351	689	-	513	
Springer, twp	2,269	3	-	2	1	-	2	
Sturgeon Falls, t	M 5,770	109	-	31	78	-	53	
Provincial Highway	-	757	12	269	476	14	492	
Other Areas	7,691	222	1	74	147	1	105	
Northumberland	67,232	1,887	23	638	1,226	25	1,063	42,939
Brighton, t	3,686	41	-	14	27	-	22	
Brighton, twp	2,940	6	-	2	4	-	3	
Campbellford, t	3,408	34	-	7	27	-	10	
Cobourg, t	M 13,210	288	1	90	197	1	117	
Colborne, vl	1,869	15	-	4	11	-	5	
Cramahe, twp	2,461	1	-	-	1	-	-	
Haldimand, twp	3,628	5	-	1	4	-	3	
Hamilton, twp	8,085	6	-	3	3	-	3	
Hope, twp	3,636	2	-	2	-	-	2	
Murray, twp	5,958	1	-	-	1	-	-	
Percy, twp	2,700	1	-	-	1	-	-	
Port Hope, t	M 10,243	107	-	40	67	-	62	
Seymour, twp	3,527	1	-	-	1	-	-	
Provincial Highway	-	844	16	315	513	18	591	
Other Areas	1,881	531	6	160	369	6	245	

Table 4.1 Continued

Location		Estimated	Class of Accident				Persons		Motor Vehicle
		Population	Total		Personal	Property			Registrations
		(1988)	Accidents	Fatal	Injury	Damage	Killed	Injured	
Ottawa-Carleton		623,135	14,582	45	4,537	10,000	52	6,535	357,140
Cumberland, twp		30,164	230	1	81	148	1	132	
Gloucester, c	M	93,121	1,187	3	280	904	3	405	
Goulbourn, twp		13,099	181	3	58	120	3	85	
Kanata, c		30,295	432	-	115	317	-	182	
Nepean, c	M	97,883	1,487	-	388	1,099	-	570	
Osgoode, twp		11,670	125	-	44	81	-	61	
Ottawa, c	M	303,747	7,459	12	2,526	4,921	13	3,482	
Rideau, twp		10,370	166	3	58	105	5	91	
Rockcliffe Park, vl		2,295	17	-	1	16	-	1	
Vanier, c		18,190	327	-	111	216	-	145	
West Carleton, twp		12,301	120	1	36	83	1	61	
Provincial Highway		-	1,914	19	590	1,305	22	974	
Other Areas		-	937	3	249	685	4	346	
Oxford		84,008	2,245	21	710	1,514	26	1,131	62,274
Blandford-Blenheim, twp		6,457	6	-	2	4	-	2	
East Zorra-Tavistock, twpM		6,878	1	-	1	-	-	1	
Ingersoll, t	M	8,253	125	-	32	93	-	39	
Norwich, twp	M	9,453	17	1	5	11	1	5	
S West Oxford, twp		8,067	2	-	-	2	-	-	
Tillsonburg, t	M	10,621	174	-	54	120	-	74	
Woodstock, c	M	26,295	736	1	205	530	2	298	
Provincial Highway		-	680	12	247	421	16	470	
Other Areas		7,984	504	7	164	333	7	242	
Parry Sound		30,138	1,195	15	368	812	19	697	28,360
Himsworth North, twp		2,653	4	-	2	2	-	8	
Parry Sound, t	M	5,895	87	-	27	60	-	44	
Provincial Highway		-	756	15	244	497	19	500	
Other Areas		21,590	348	-	95	253	-	145	
Peel	M	608,327	16,659	47	5,213	11,399	53	8,368	431,769
Brampton, c		192,045	3,922	11	1,247	2,664	12	1,962	
Caledon, t		31,126	770	5	277	488	7	488	
Mississauga, c		385,156	8,176	15	2,441	5,720	15	3,780	
Provincial Highway		-	3,399	15	1,134	2,250	18	1,983	
Other Areas		-	392	1	114	277	1	155	
Perth		66,226	1,357	10	379	968	13	596	45,409
Elma, twp		3,898	1	-	1	-	-	1	
Listowel, t	M	5,083	90	1	7	82	1	10	
Mitchell, t	M	3,078	48	-	8	40	-	9	
St. Marys, t	M	4,923	79	-	15	64	-	26	
South Easthope, twp		1,770	1	-	-	1	-	-	
Stratford, c	M	26,078	571	-	144	427	-	198	
Wallace, twp		2,294	1	-	-	1	-	-	
Provincial Highway		-	236	-	86	150	-	152	
Other Areas		19,102	330	9	118	203	12	200	
Peterborough		105,493	2,607	13	891	1,703	14	1,378	73,174
Asphodel, twp		1,870	1	-	1	-	-	3	

Table 4.1 **Continued**

Location	Estimated Population (1988)	Class of Accident				Persons		Motor Vehicle Registrations
		Total Accidents	Fatal	Personal Injury	Property Damage	Killed	Injured	
Belmont & Methuen, twp	2,472	1	-	1	-	-	1	
Ennismore, twp	3,715	1	-	-	1	-	-	
Lakefield, vl M	2,359	33	-	12	21	-	17	
Peterborough, c M	62,005	1,301	2	465	834	2	696	
Smith, twp	8,002	1	-	-	1	-	-	
Provincial Highway	-	561	7	194	360	8	345	
Other Areas	25,070	708	4	218	486	4	316	
Prescott	28,993	753	4	260	489	4	394	20,203
East Hawkesbury, twp	2,927	2	-	1	1	-	1	
Hawkesbury, t M	9,400	205	-	59	146	-	82	
L'Orignal, vl	1,970	18	-	5	13	-	7	
Vankleek Hill, t	1,745	19	-	4	15	-	6	
West Hawkesbury, twp	2,710	2	-	1	1	-	1	
Provincial Highway	-	231	3	86	142	3	147	
Other Areas	10,241	276	1	104	171	1	150	
Prince Edward	21,793	430	3	130	297	4	217	16,438
Ameliasburg, twp	5,005	2	-	-	2	-	-	
Picton, t	4,049	78	-	21	57	-	32	
Provincial Highway	-	100	2	34	64	3	69	
Other Areas	12,739	250	1	75	174	1	116	
Rainy River	18,981	570	8	128	434	8	220	15,790
Atikokan, twp M	4,092	9	-	1	8	-	4	
Fort Francis, t M	8,589	219	-	43	176	-	61	
Provincial Highway	-	222	8	52	162	8	95	
Other Areas	6,300	120	-	32	88	-	60	
Renfrew	85,953	1,664	20	527	1,117	26	861	61,295
Arnprior, t	6,002	81	-	19	62	-	23	
Deep River, t M	4,166	15	-	3	12	-	4	
Pembroke, c M	13,595	302	1	104	197	1	169	
Petawawa, twp	7,905	2	-	-	2	-	-	
Petawawa, vl	5,189	4	-	2	2	-	3	
Renfrew, t M	7,914	123	-	32	91	-	53	
Ross, twp	1,739	1	-	-	1	-	-	
Stafford, twp	2,769	4	-	1	3	-	2	
Provincial Highway	-	531	11	161	359	16	282	
Other Areas	36,674	601	8	205	389	9	325	
Russell	30,145	519	9	156	354	10	253	35,579
Cambridge, twp	5,249	1	-	-	1	-	-	
Casselman, vl	2,021	14	-	3	11	-	3	
Clarence, twp	7,885	5	-	2	3	-	2	
Rockland, t	5,119	58	-	16	42	-	20	
Russell, twp	8,518	1	-	-	1	-	-	
Provincial Highway	-	115	4	34	77	4	71	
Other Areas	1,353	326	5	101	220	6	157	
Simcoe	241,694	7,600	57	2,190	5,353	66	3,524	180,763
Alliston, t M	4,885	21	-	6	15	-	10	
Barrie, c M	49,818	1,544	4	376	1,164	4	554	

Table 4.1 Continued

Location		Estimated Population (1988)	Class of Accident				Persons		Motor Vehicle Registrations
			Total Accidents	Fatal	Personal Injury	Property Damage	Killed	Injured	
Beeton, vl		2,189	12	-	6	6	-	7	
Bradford, t	M	10,188	195	-	62	133	-	86	
Collingwood, t	M	12,196	365	3	77	285	3	112	
Elmvale, vl		1,564	27	-	2	25	-	2	
Essa, twp		12,828	8	-	1	7	-	1	
Flos, twp		2,666	2	-	1	1	-	1	
Innisfil, twp	M	14,529	11	-	5	6	-	8	
Mara, twp		4,226	5	-	2	3	-	2	
Medonte, twp		4,583	5	-	2	3	-	3	
Midland, t	M	12,171	307	1	96	210	1	130	
Nottawasage, twp		4,854	2	-	1	1	-	1	
Orillia, c	M	23,893	546	-	141	405	-	189	
Orillia, twp		7,238	4	-	-	4	-	-	
Oro, twp		7,789	5	-	1	4	-	2	
Penetanguishene, t	M	5,533	113	-	16	97	-	20	
Port McNicoll, vl		1,818	11	-	6	5	-	7	
Stayner, t		3,045	42	-	10	32	-	13	
Sunnidale, twp		2,304	2	-	2	-	-	2	
Tay, twp		5,943	2	-	1	1	-	1	
Tecumseth, twp		7,370	6	-	2	4	-	2	
Tiny, twp		7,393	4	1	1	2	2	2	
Tosorontio, twp		3,590	1	-	-	1	-	-	
Tottenham, vl		2,856	18	-	6	12	-	18	
Vespra, twp		6,502	4	-	1	3	-	2	
Wasaga Beach, t		4,807	130	1	34	95	1	59	
West Gwillimbury, twp		4,431	8	-	1	7	-	2	
Provincial Highway		-	2,316	27	703	1,586	32	1,269	
Other Areas		8,920	1,883	20	628	1,235	23	1,019	
Stormont		61,352	1,466	13	502	951	15	824	38,702
Cornwall, c	M	45,529	1,092	2	368	722	2	556	
Finch, twp		2,294	1	-	1	-	-	4	
Provincial Highway		-	205	6	78	121	6	173	
Other Areas		13,529	168	5	56	108	7	91	
Sudbury District and									
Sudbury Regional Munic. M	M	168,677	4,919	26	1,645	3,248	33	2,558	115,088
Capreol, t		3,531	54	-	17	37	-	32	
Chapleau, twp		3,070	20	-	6	14	-	9	
Espanola, t	M	5,358	60	-	15	45	-	18	
Nickel Centre, t		11,063	126	2	37	87	3	55	
Onaping Falls, t		5,153	38	1	11	26	1	13	
Rayside-Balfour, t		13,702	174	-	69	105	-	106	
Sudbury, c		89,698	2,844	9	945	1,890	9	1,458	
Valley East, t		19,119	358	2	138	218	2	227	
Walden, t		9,048	106	1	30	75	1	41	
Provincial Highway		-	783	11	266	506	17	418	
Other Areas		8,935	356	-	111	254	-	181	
Thunder Bay		140,951	4,779	21	1,286	3,472	23	1,882	108,718

Table 4.1 Continued

Location	Estimated Population (1988)	Class of Accident				Persons		Motor Vehicle Registrations
		Total Accidents	Fatal	Personal Injury	Property Damage	Killed	Injured	
Geraldton, t	2,528	18	-	2	16	-	2	
Longlac, t	2,133	19	-	2	17	-	2	
Manitouawadge, twp	3,603	33	-	3	30	-	6	
Marathon, t M	4,140	49	-	8	41	-	10	
Nipigon, twp	2,315	11	-	3	8	-	3	
Oliver, twp	2,289	1	-	1	-	-	1	
Paipoonge, twp	2,750	3	-	-	3	-	-	
Schreiber, twp	1,891	2	-	1	1	-	1	
Terrace Bay, twp M	2,491	24	-	1	23	-	1	
Thunder Bay, c M	109,269	3,211	4	853	2,354	4	1,203	
Provincial Highway	-	1,086	13	329	744	15	520	
Other Areas	7,542	320	4	83	235	4	133	
Timiskaming	35,741	886	5	241	640	5	382	25,280
Englehart, t	1,707	13	-	4	9	-	6	
Haileybury, t	4,744	30	-	5	25	-	6	
Kirkland Lake, t M	11,300	165	-	30	135	-	36	
New Liskeard, t M	5,159	107	-	14	93	-	16	
Provincial Highway	-	410	5	147	258	5	254	
Other Areas	12,831	161	-	41	120	-	64	
Toronto, Metropolitan, M	2,133,559	63,474	127	20,909	42,438	137	31,570	1,361,828
East York, borough	96,497	1,337	2	409	926	2	589	
Etobicoke, c	293,433	5,733	14	2,014	3,705	15	3,091	
North York, c	544,960	12,716	30	4,650	8,036	34	7,248	
Scarborough, c	470,406	9,771	21	3,356	6,394	21	5,298	
Toronto, c	597,126	23,254	30	7,096	16,128	31	10,037	
York, c	131,537	2,319	5	749	1,565	6	1,057	
Provincial Highway	-	8,344	25	2,635	5,684	28	4,250	
Victoria	55,132	1,570	11	493	1,066	11	813	41,870
Bobcaygeon, vl	1,944	20	-	6	14	-	8	
Emily, twp	5,350	7	-	1	6	-	1	
Fenelon Falls, vl	1,755	26	-	9	17	-	11	
Fenelon Falls, twp	5,141	2	-	-	2	-	-	
Lindsay, t M	15,265	411	2	109	300	2	153	
Manvers, twp	4,565	2	-	2	-	-	3	
Mariposa, twp	5,771	1	-	-	1	-	-	
Ops, twp	3,589	2	-	-	2	-	-	
Verulam, twp	3,327	2	-	1	1	-	1	
Provincial Highway	-	549	6	194	349	6	354	
Other Areas	8,425	548	3	171	374	3	282	
Waterloo M	342,030	9,103	27	2,774	6,302	31	4,176	225,447
Cambridge, c	80,657	2,010	4	591	1,415	5	884	
Kitchener, c	152,771	3,672	6	1,125	2,541	6	1,635	
North Dumfries, twp	5,486	101	2	37	62	2	75	
Waterloo, c	67,435	1,502	-	439	1,063	-	659	
Wellesley, twp	7,500	28	1	13	14	1	24	
Wilmot, twp	11,423	136	1	51	84	1	83	

Table 4.1 Continued

Location	Estimated Population (1988)	Class of Accident				Persons		Motor Vehicle Registrations
		Total Accidents	Fatal	Personal Injury	Property Damage	Killed	Injured	
Woolwich, twp	16,758	196	2	65	129	2	106	
Provincial Highway	-	1,051	9	320	722	12	510	
Other Areas	-	407	2	133	272	2	200	
Wellington	143,778	3,628	31	1,257	2,340	35	2,063	99,449
Arthur, twp	2,132	2	-	-	2	-	-	
Arthur, vl	1,967	23	-	3	20	-	4	
Elora, vl	2,991	24	1	8	15	1	15	
Eramosa, twp	4,984	4	-	-	4	-	-	
Erin, twp	6,606	9	-	4	5	-	7	
Erin, vl	2,308	18	-	2	16	-	4	
Fergus, t	M 6,757	123	-	32	91	-	38	
Guelph, c	M 80,786	1,527	4	560	963	5	819	
Guelph, twp	3,075	28	-	6	22	-	8	
Harriston, t	M 1,940	25	-	5	20	-	5	
Minto, twp	4,984	4	-	-	4	-	-	
Mount Forest, t	M 3,713	48	-	9	39	-	9	
Nichol, twp	2,169	5	-	1	4	-	2	
Palmerston, t	M 2,085	15	-	2	13	-	3	
Peel, twp	3,914	1	-	-	1	-	-	
Pilkington, twp	2,138	1	-	-	1	-	-	
Puslinch, twp	4,703	4	-	1	3	-	2	
Provincial Highway	-	890	12	342	536	13	652	
Other Areas	7,768	876	14	281	581	16	491	
York	M 409,292	11,867	39	3,007	8,821	46	4,744	117,395
Aurora, t	24,545	493	1	98	394	1	140	
East Gwillimbury, t	16,513	268	2	67	199	4	112	
Georgina, t	22,587	316	4	84	228	4	136	
King, twp	16,607	244	1	68	175	1	108	
Markham, t	129,501	2,101	3	446	1,652	4	653	
Newmarket, t	37,277	702	-	156	546	-	230	
Richmond Hill, t	57,082	1,078	6	265	807	7	394	
Vaughan, t	88,475	2,037	2	477	1,558	2	729	
Whitchurch-Stouffville, t	16,705	314	2	73	239	2	119	
Provincial Highway	-	3,638	18	1,105	2,515	21	1,878	
Other Areas	-	676	-	168	508	-	245	

Vehicle Registration Location Not Recorded 11,367

* Source: Ontario Ministry of Municipal Affairs
Municipal Directory 1989

Population data in this table refers to those persons
residing in a municipality on a permanent basis.

5 the vehicle

Passenger vehicles make up almost three-quarters of the vehicle population in Ontario, and they comprise 72% of the vehicles which are involved in accidents. Of the vehicles involved in fatal accidents, passenger cars make up 59%.

Of the vehicles involved in accidents, 94% had no

apparent defects. Of the vehicles with defects, the majority involved the brakes and tires.

Of the vehicles involved in fatal accidents, 3.7% were not insured. Less than one per cent of the vehicles involved in property damage only accidents carried no insurance.



5a. vehicles in accidents

Table 5.1 Type of Vehicle Involved in All Accidents 1989

Type of Vehicle	In	In Personal	In Property	In All
	Fatal	Injury	Damage	Accidents
Passenger Car	1,131	108,646	225,569	335,346
Passenger Car & Trailer	5	262	700	967
Truck	451	24,863	62,408	87,722
Truck & Trailer	37	681	2,043	2,761
Tractor & Semi-trailer	102	1,761	5,036	6,899
Motorcycle	87	3,211	743	4,041
Bus	8	947	2,259	3,214
School Bus/Vehicle	10	394	1,213	1,617
Other - Or not Known	7	2,450	12,913	15,370
Non Motor Vehicle	64	4,711	1,643	6,418
Total	1,902	147,926	314,527	464,355

In 1988, major revisions were made in the recording of motor vehicle accident data. The above table now reflects a consolidation of various types of vehicles and /or trailers therefore valid conclusions cannot be made when comparing this data to that of the years previous to 1988.

More detailed information for some vehicles is provided in the Vehicles of Special Interest Section.

Table 5.2 Condition of Vehicle by
Class of Accident 1989

Condition of Vehicle	Class of Accident			Total
	Fatal	Personal	Property	
		Injury	Damage	
No Apparent Defect	1,740	141,434	293,401	436,575
Service Brakes Defective	7	318	433	758
Steering Defective	1	51	86	138
Tire Puncture or Blow Out	2	150	329	481
Tire Tread Insufficient	9	106	130	245
Headlamps Defective	4	24	31	59
Other Lamps or Reflectors Defective	4	65	163	232
Engine Controls Defective	-	32	128	160
Wheels or Suspension Defective	-	19	89	108
Vision Obscured	1	17	32	50
Trailer Hitch Defective	-	12	38	50
Other Defects	51	1,065	2,200	3,316
Unknown	83	4,633	17,467	22,183
Total	1,902	147,926	314,527	464,355

Of the vehicles involved in accidents, 94% had no apparent defect. The most commonly cited vehicle defects were defective service brakes, and tire blowout, tire puncture or insufficient tread. In fatal accidents, 91.5% of the vehicles had no apparent defect.

Table 5.3 Model Year of Vehicle by Class of
Accident 1989

Model Year of Vehicle	Class of Accident			Total
	Fatal	Personal	Property	
		Injury	Damage	
1990	9	663	1,867	2,539
1989	176	12,185	26,427	38,788
1988	210	17,649	37,396	55,255
1987	233	15,067	32,442	47,742
1986	206	15,554	32,963	48,723
1985	178	13,922	28,988	43,088
1984	162	12,186	25,254	37,602
1983	93	8,238	16,587	24,918
1982	76	7,307	14,398	21,781
1981	98	8,810	18,217	27,125
1980 and earlier	413	29,632	62,984	93,029
Unknown	48	6,713	17,004	23,765
Total	1,902	147,926	314,527	464,355

Table 5.4 Insurance Status of Vehicle by Class of Accident 1989

Insurance	Class of Accident			Total
	Fatal	Personal	Property	
		Injury	Damage	
Insured	1,769	137,089	292,399	431,257
Not Insured	71	3,543	3,047	6,661
Unknown	62	7,294	19,081	26,437
Total	1,902	147,926	314,527	464,355

5b. putting the vehicle in context

Table 5.5 Vehicle Population by
Type of Vehicle 1989

Vehicle Class	
Passenger	4,701,949
Motorcycle	126,391
Moped	4,839
Commercial	1,043,526
Bus	19,218
School Bus	9,691
Motorized Snow Vehicle	308,373
Off-Road Vehicle	74,316
Road Building Machinery	1,052
Permanent Apparatus	3,923
Farm Trucks	33,158
Total	6,326,436

Table 5.7 Vehicle Damage Level 1989

Damage	Class of Accidents			Total
	Fatal	Personal Injury	Property Damage	
None	119	15,775	21,749	37,643
Light	187	40,307	129,837	170,331
Moderate	187	39,070	109,199	148,456
Severe	333	32,965	32,662	65,960
Demolished	1,035	15,089	5,178	21,302
Unknown	41	4,720	15,902	20,663
Total	1,902	147,926	314,527	464,355

Vehicle Damage

None -No visible damage.

Light -Slight or superficial damage. Includes scratches, small dents, minor cracks in glass that do not affect safety or performance of vehicle.

Moderate -Unsafe conditions result from damage. Vehicle must be repaired to make its condition meet requirements of law. Vehicle can be driven off road or limited distance but doing so would be unsafe.

Severe -Vehicle cannot be driven. Requires towing. Would normally be repaired.

Demolished -Vehicle damaged to the extent that repairs would not be feasible.

Table 5.6 Selected Types of Vehicles by Model Year 1989

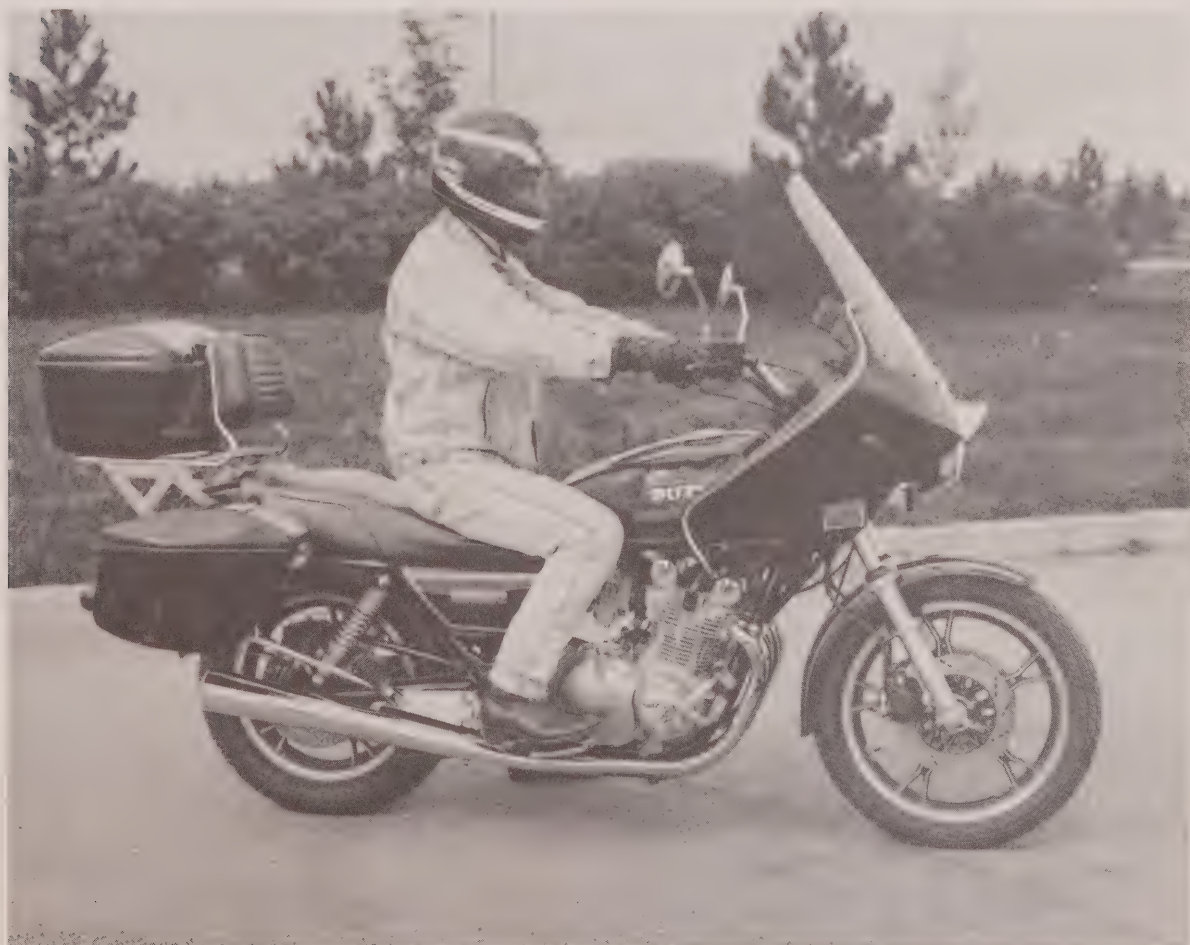
Vehicle Class	Model Years											Total
	90	89	88	87	86	85	84	83	82	81	80+	
Passenger	99,887	438,799	482,091	443,711	493,480	442,102	397,774	272,960	235,671	294,750	1,100,724	4,701,949
Motorcycle	110	2,599	4,086	4,621	8,852	12,523	14,849	13,733	14,727	8,901	41,390	126,391
Moped	-	13	30	114	87	69	78	208	259	262	3,719	4,839
Commercial	18,987	105,043	126,004	99,634	100,473	83,755	69,339	43,291	38,636	62,092	334,405	1,081,659
Bus	602	2,768	3,127	3,126	2,379	2,526	2,171	1,796	1,575	1,737	7,102	28,909
Motorized Snow Vehicle	9,513	15,264	14,519	11,866	9,530	8,006	5,608	6,304	10,047	13,436	204,280	308,373
Off-Road Vehicle	572	3,477	3,841	7,428	11,888	11,186	12,815	9,503	4,452	2,131	7,023	74,316
Total	129,671	567,963	633,698	570,500	626,689	560,167	502,634	347,795	305,367	383,309	1,698,643	6,326,436

6

vehicles of
special
interest

While passenger vehicles make up the majority of the motor vehicle population in Ontario, they share the road with other vehicles such as motorcycles, school vehicles, trucks, motorized snow vehicles, off-road vehicles, and bicycles. These vehicles present some special concerns in terms of their operating characteristics,

accident trends, changes in vehicle population size or in areas of particular public concern. Some of the statistics pertaining to the unique road safety issues concerning these vehicles are presented in this section.



6a.

motorcycles

Table 6.1 **Motorcyclists***
Killed and Injured
1985-1989

Year	Drivers		Passengers	
	Killed	Injured	Killed	Injured
1985	97	5,327	23	920
1986	99	5,012	15	870
1987	120	4,721	12	798
1988	76	3,866	13	666
1989	78	2,945	8	599

*Excludes moped drivers and passengers.

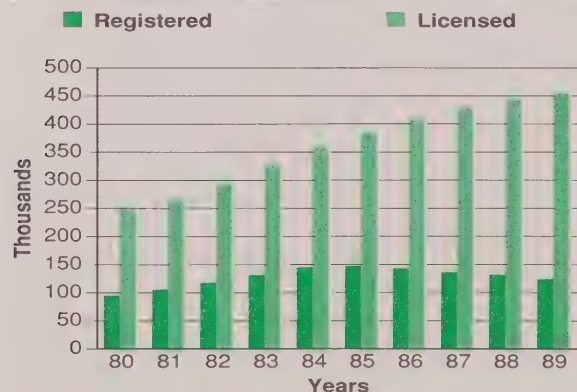
The significant decrease in the number of motorcyclists killed and injured which was realized in 1988 continued in 1989. However, while motorcycles make up 2.1% of the vehicle population, they comprise 4.6% of the vehicles involved in fatal accidents. In contrast, they are only involved in 0.2% of property damage accidents.

Table 6.2 **Selected Factors**
Relevant to Fatal Motorcycle
Accidents 1989

Factors	%
Unlicensed Motorcycle Drivers	22
Under 25 Years Old	64
Alcohol Used	
Ability Impaired Alcohol >.08	17
Had Been Drinking	21
Unknown	10
Helmet Not Worn (Fatalities)	9
Motorcycle Driver Error	
Speed Too Fast/Lost Control	59
Other Error	23
Single Vehicle Accidents	48
Day/Night	57/43
Weekend	45

Nearly one half of fatal motorcycle accidents did not involve another vehicle and the majority of fatal accidents were as a result of excessive speed and/or loss of control. Young drivers continue to be the majority involved in motorcycle fatalities.

Figure 6.1 **Registered Motorcycles and**
Licensed Motorcyclists
1980-1989



6b. school vehicles

Note: The 1988/89 school year is the first full season in which the new accident report form was in use.

Table 6.3 Pupils Transported Daily, Total Accidents and Injury Rate per 100,000 Pupils - School Years 1984/85-1988/89

School Year	Pupils Transported Daily	Total Number of Accidents	Injury Rate Per 100,000 Pupils	
			Fatal	Non-Fatal
1984/85	622,219	866	-	34
1985/86	652,406	961	0.1	44
1986/87	685,825	922	0.1	26
1987/88	712,893	852	0.4	30
1988/89	751,153	1,259	0.3	27

Table 6.4 School Vehicle Type by Nature of Accident 1988/89

School Vehicle Type	Nature of Accident			Total Number of Accidents	Five Year Total (1984/85-1988/89)
	Fatal	Personal Injury*	Property Damage		
School Bus	7	251	788	1,046	3,900
School Van	1	46	134	181	913
Other School Vehicles	1	13	18	32	47
Total Accidents	9	310	940	1,259	4,860

*Pupil injury and non-pupil injury distinctions were not available at press time.

Table 6.5 Pupil Injury by Accident Event and Vehicle Type 1988/89

School Vehicle Type	Accident Event						Total		Five Year Total	
	Crossing Road		Within School Vehicle		Other				(1984/85-1988/89)	
	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured
School Bus	-	4	-	150	1	18	1	172	6	904
School Van	-	-	-	17	-	7	-	24	-	205
Other School Vehicles	-	-	-	11	1	2	1	13	1	17
Total	-	4	-	178	2	27	2	209	7	1,126

6c. trucks

Table 6.6 Class of Truck Accident
1985 - 1989

Year	Class of Accident			Total
	Fatal	Personal Injury	Property Damage	
1985	417	20,149	39,820	60,386
1986	416	21,337	41,142	62,895
1987	483	25,100	45,589	71,172
1988	471	20,720	46,462	67,653
1989	466	19,959	50,085	70,510
Total	2,253	107,265	223,098	332,616

Table 6.7 Driver Licence Class Required
by Class of Truck Accident 1989

Driver Licence Required	Class of Accident			Total
	Fatal	Personal Injury	Property Damage	
G	296	16,399	40,037	56,732
D	47	1,357	4,130	5,534
A*	123	2,203	5,918	8,244
Total	466	19,959	50,085	70,510

*Includes truck/trailer combinations requiring a Class "A" licence.

Table 6.8 Driver Licence Class Required -
Accidents, Registered Trucks and
Accident Rate 1989

Driver Licence Required	Accidents	Registered Vehicles	Accident Rate
G	56,732	939,451	6.0
D	5,534	63,664	8.7
A*	8,244	97,960**	8.4
Total	70,510	1,101,075	6.4

* Tractor/trailer combination only.

**Includes vehicles registered under the new SVAR system.

Data for truck/trailer combinations requiring Class "A" driver licence are not reported separately in the Vehicle Registration System.

Table 6.9 Selected Factors Relevant to Fatal
Truck Accidents 1989

Factors	Driver Licence Required		
	Class G	Class D	Class A
Driver Condition in			
Fatal Accidents:			
Alcohol Involved	22.6%	2.1%	2.4%
Driving Properly	43.6%	61.7%	74.0%
Single Vehicle	46.6%	40.3%	34.2%
Vehicle Defect Present*	5.7%	6.4%	3.3%
Urban	31.1%	46.8%	17.9%
Daylight	62.2%	78.7%	56.1%

*Excludes unknown category

6d.

off-road
vehicles

Table 6.10 **Accident Location
by Off-Road Vehicle Drivers
Killed and Injured 1985 - 1989**

Location	Killed					Injured				
	1985	1986	1987	1988	1989	1985	1986	1987	1988	1989
On-Highway	3	6	8	2	-	92	106	97	42	24
Off-Highway	7	2	6	5	10	112	89	79	159	124
Total	10	8	14	7	10	204	195	176	201	148

Table 6.11 **Accident Location by
Off Road Vehicle Passengers
Killed and Injured 1985 - 1989**

Location	Killed					Injured				
	1985	1986	1987	1988	1989	1985	1986	1987	1988	1989
On-Highway	1	-	-	-	-	23	32	32	8	10
Off-Highway	2	3	1	1	-	33	23	22	41	36
Total	3	3	1	1	-	56	55	54	49	46

For the purposes of this publication, off-road vehicles include dune buggies, off-road motorcycles (dirt bikes), and three and four wheeled all-terrain vehicles. Off-road vehicles were first required to be registered on June 1, 1984.

Table 6.12 **Registered Off-Road
Vehicles 1985-1989**

Year	Vehicles Registered
1985	43,545
1986	53,943
1987	62,038
1988	68,634
1989	74,316

Table 6.13 **Selected Factors Relevant to
All Off-Road Vehicle
Accidents 1989**

Factors	%
Drivers Under 25 Years of Age	60.4
Alcohol Used	19.2
Speeding	24.4
Helmet Not Worn	38.2
Daytime	76.4
Two-Wheeled	21.6
Three-Wheeled	37.6
Four-Wheeled	40.8

6e. motorized snow vehicles

Table 6.14 Accident Location by Motorized Snow Vehicle Drivers Killed and Injured - Riding Seasons 1984/85 - 1988/89

Location	Killed					Injured				
	84/85	85/86	86/87	87/88	88/89	84/85	85/86	86/87	87/88	88/89
On-Highway	8	6	5	4	*	159	192	137	111	*
Off-Highway	5	9	13	13	*	130	168	143	166	*
Total	13	15	18	17	29	289	360	280	277	311
% On-Highway	62	40	28	24	*	55	53	49	40	*

*On-highway/off-highway distinctions were not available at press time.

Table 6.15 Accident Location by Motorized Snow Vehicle Passengers Killed and Injured - Riding Seasons 1984/85 - 1988/89

Location	Killed					Injured				
	84/85	85/86	86/87	87/88	88/89	84/85	85/86	86/87	87/88	88/89
On-Highway	3	-	-	-	*	43	57	49	28	*
Off-Highway	1	1	1	5	*	41	47	45	53	*
Total	4	1	1	5	5	84	104	94	81	105

*On-highway/off-highway distinctions were not available at press time.

Table 6.16 Registered Motorized Snow Vehicles 1985-1989

Year	Registered Motorized Snow Vehicles 1985-1989
1985	209,290
1986	237,806
1987	263,681
1988	285,744
1989	308,373

Table 6.17 Selected Factors Relevant to All Motorized Snow Vehicle Accidents 1988/89

Factors	%
Unlicensed Operators	14
Rider Error; Speed Too Fast	32
Alcohol Used	21
Surface Condition; Icy or Packed Snow	73

6f. bicycles

Table 6.18 **Bicyclists***
Killed and Injured
1985-1989

Year	Drivers		Passengers	
	Killed	Injured	Killed	Injured
1985	42	4,662	1	46
1986	29	4,681	-	41
1987	34	5,093	1	41
1988	43	4,293	-	34
1989	33	4,020	-	**

**Passenger injury data were not available at press time.

*Only accidents involving a bicycle and a motor vehicle or streetcar are required to be reported. These tables do not include bicycle only, bicycle/bicycle or bicycle-pedestrian accidents.

Table 6.19 **Age of Bicyclist* Involved in Accidents by**
Light Condition 1989

Light Condition	Age Groups						
	0 - 5	6 - 15	16 - 30	31 - 60	61+	UK	Total
Daylight	69	1,602	1,476	441	57	242	3,887
Dawn	-	-	11	7	1	-	19
Dusk	5	85	85	18	1	12	206
Dark	5	118	328	80	6	33	570
Total	79	1,805	1,900	546	65	287	4,682

*Includes passengers

Table 6.20 **Selected Factors**
Relevant to
All Bicycle Accidents 1989

Factors	%
Driving Properly (Bicyclist)	42
Driving Properly (Motor Vehicle Driver)	49
Intersection Related	61
Going Ahead (Bicyclist)	80
Alcohol Related (Bicyclist)	3
No Apparent Vehicle Defect (Bicycle)	90
Clear Visibility	92
Weekend	20

7

conviction
and
suspension
data

The number of convictions for motor vehicle related offences decreased slightly in comparison to 1988.

In contrast, convictions related to the improper or non-use of seat belts and child restraints increased by 26% in 1989. Transport Canada surveys suggest that only 71% of Ontario drivers use seat belts. The proper use of seat belts is the most effective means of protection from fatality or serious injury in a traffic accident. In 1989, the Ontario Provincial Police and the municipal and regional police services of Ontario joined with MTO

in beginning an ongoing intensified awareness and enforcement campaign to increase compliance with seat belt laws in Ontario.

Convictions for alcohol-related offences increased in 1989. It is of particular concern that more than half of these convictions were registered against second or third time offenders. There was also a significant increase in the number of convictions for driving while suspended.



7a. conviction data

Table 7.1 Summary of Motor Vehicle
Related Convictions 1989

Convictions	Number
Highway Traffic Act	1,450,516
Regulation H.T.A	3,339
Criminal Code of Canada*	37,045
Municipal By-Law	21,322
Motor Vehicle Accident Claim/Compulsory Insurance Act	24,936
Total	1,537,158

*This figure does not include 415 convictions for young offenders under the Criminal Code. While the number of drivers continued to increase, the number of convictions for motor vehicle related violations decreased slightly.

Table 7.2 Motor Vehicle Convictions
Related to the
Highway Traffic Act 1989

Convictions	Number
Equipment	31,271
Administrative*	122,440
Seat Belt (Driver & Passenger)**	110,166
Other Non-Pointable Convictions***	13,201
Speeding (< 16 km/h, non-pointable)	433,363
Pointable Speeding	453,639
Other Pointable Convictions (2 - 4 pt)	236,645
Other Pointable Convictions (5 - 7 pt)	19,395
Driving While Suspended	12,827
Total	1,432,947

* Non-moving, weight, vehicle registration, licence renewal, etc.

** Failure to wear seat belt convictions registered against passengers over 16 are no longer included

*** Now includes some out of province convictions

Table 7.3 Motor Vehicle Convictions
Related to the
Criminal Code 1989*

Convictions	Number
Alcohol Related**	32,228
Criminal Negligence	51
Fail to Remain at Accident	1,198
Driving While Disqualified	2,337
Dangerous Driving	1,230
Motor Manslaughter	1
Total	37,045

*Does not include 415 convictions for young offenders.

**Includes some out of province convictions.

Convictions for alcohol-related driving offences under the Criminal Code of Canada increased by almost 5% in 1989. The longterm trend has been to decreases in drinking and driving convictions.

7b.

suspension
data**Table 7.4** Mandatory Suspensions Related to
Criminal Code Convictions
Issued 1989*

Suspensions	3 Months	6 Months	1 Year	2 Years	3 Years	Total
Criminal Negligence (s. 203, 204)	-	-	22	16	7	45
Motor Manslaughter	-	-	-	-	-	-
Criminal Negligence (s. 233-1)	2	-	1	1	-	4
Fail to Remain (s. 233-2)	4	3	674	310	166	1,157
Dangerous Driving	6	-	607	360	197	1,170
Impaired Driving (s. 234)	29	11	5,576	4,692	2,498	12,806
Blood/Alcohol over .08	34	5	7,767	5,605	2,763	16,174
Failure to Provide Breath Sample	10	2	1,220	923	494	2,649
Failure to Provide Roadside Breath Sample	2	1	-	-	-	3
Drive while Disqualified or Prohibited	-	-	1,677	599	46	2,322
Total	87	22	17,544	12,506	6,171	36,330

* Total issued during the calendar year.

New federal and provincial laws relating to drinking and driving took effect December 20, 1985. Individuals convicted of offences which occurred prior to that date are not subject to the longer minimum mandatory suspension periods of the new laws. Previous minimum suspension periods were 3 months for a first conviction, 6 months for the second conviction within five years and 3 years for a third conviction within five years. The current minimum suspension periods are 1 year for a first conviction, 2 years for a second conviction

within five years and 3 years for a third conviction within five years. The number of drivers convicted of driving while under suspension for a previous Criminal Code of Canada conviction increased by 23%. The number of drivers convicted for a second or subsequent charge of driving while under suspension increased by 66%. Of the drinking and driving convictions, 54% were registered against second or subsequent offenders, some of whom may have been under suspension at the time of the second or subsequent offence.

Table 7.5 Mandatory Suspensions Related to
Criminal Code Convictions at Year End 1989*

Suspensions	3 Months	6 Months	1 Year	2 Years	3 Years	Total
Criminal Negligence (s.203,204)	-	-	53	42	24	119
Motor Manslaughter	-	-	-	-	-	-
Criminal Negligence (s.233-1)	1	-	1	2	9	13
Fail to Remain (s. 233-2)	2	-	739	576	353	1,670
Dangerous Driving	2	-	829	659	447	1,937
Impaired Driving (s. 234)	6	5	6,697	7,348	4,715	18,771
Blood/Alcohol over .08	7	4	8,501	8,026	4,356	20,894
Failure to Provide Breath Sample	2	-	1,408	1,562	1,078	4,050
Failure to Provide Roadside Breath Sample	-	-	-	-	5	5
Drive While Disqualified or Prohibited	-	-	3,456	1,113	77	4,666
Total	20	9	21,684	19,348	11,064	52,125

This table reflects the suspensions in effect at year end. The total exceeds the number of suspensions issued in 1988 due

to the fact that some suspensions are in effect for more than one year.

Table 7.6 **Demerit Point Suspensions by Driver Age 1989**

Driver Age	Demerit Point Suspensions		
		Non-Probationary	Non-Probationary
		First	Second
	Probationary	Accumulation	Accumulation
16	581	-	-
17	2,888	-	-
18	4,034	15	-
19	2,829	120	4
20 - 24	6,306	1,851	151
25 - 34	4,391	1,804	157
35 - 44	1,080	523	52
45 - 54	289	186	18
55 - 64	68	65	5
65 - 74	16	15	1
75+	3	3	-
Total	22,485	4,583	388

Newly licensed drivers are covered by the probationary licence system until they have successfully completed two one-year periods of suspension free driving. Probationary drivers are suspended for 30 days after accumulating 6 or more demerit points. Non-probationary drivers are suspended

for 30 days on the first accumulation of 15 demerit points and are suspended for 6 months on the second accumulation of 15 points within 2 years. Continuing the trend of many years, about 90% of suspensions for demerit point accumulation were applied against males.

8 appendix

8a. glossary of terms

8b. ministry of transportation
highway safety publications

8a. glossary

Ability Impaired Alcohol:

Driving while one's ability is impaired by alcohol or driving with a blood alcohol concentration exceeding 80 milligrams in 100 millilitres of blood.

Alcohol Involved:

This category includes both drivers reported as ability impaired by alcohol and drivers reported as had been drinking.

Class L Driver's Licence:

The learner's licence that allows the holder to drive any motor vehicle that requires a class G driver's licence (e.g. an automobile) on the road, providing that the holder of a class G licence or any other higher licence class (A,B,C,D,E and F) is occupying the seat beside him/her for the purpose of giving instruction.

Class R Driver's Licence:

The learner's licence that allows the holder to operate a motorcycle for the purposes of training. Class R licensed motorcyclists are prohibited from nighttime riding, carrying passengers and travelling on high speed highways with exceptions of Highways 11 and 17.

Conviction:

Awarded when a person pleads guilty to, or is found guilty of, an offence related to a motor vehicle under any Act of the Ontario Legislature or its accompanying regulations, under the Parliament of Canada or any accompanying order, or under any municipal by-law.

Driver:

Unless specified otherwise, any person, whether licensed or not, considered to be in care and control of a vehicle at the time of an accident.

Fatal Accident:

A motor vehicle accident in which at least one person sustains bodily injuries resulting in death.*

Had Been Drinking:

Driving after having drunk an amount of alcohol not considered sufficient to be legally impaired or with a measured blood alcohol count of greater than zero but less than 80 milligrams.

Highway:

A common and public highway, street, avenue etc., any part of which is intended for public use or used by the general public for the passage of vehicles and including the area between the property lines.

Kilometres Travelled:

Vehicle fleet mileage is estimated on the basis of taxed gasoline and motor fuel sales. Total litres sold are converted to kilometres travelled based on a conversion factor of 22.0 kilometres per gallon.

Major Injury:

A non-fatal injury severe enough to require that the injured person be admitted to hospital, even if for observation only.

Minimal Injury:

A non-fatal injury, including minor abrasions and bruises, which does not necessitate the injured person going to a hospital.

Minor Injury:

A non-fatal injury requiring medical treatment at a hospital emergency room, but not requiring hospitalization of the involved person.

Motor Vehicle Accident:

Any incident in which bodily injury or damage to property is sustained as a result of the movement of a motor vehicle, or of its load while a motor vehicle is in motion.

Off-Highway Accidents:

An off-highway accident involving any of the motorized vehicles which are covered by legislation under the Highway Traffic Act, the Motorized Snow Vehicles Act, and the Off-Road Vehicles Act.

On-Highway Accidents:

A motor vehicle accident which occurs on the highway, between the property lines.

Pedestrian:

Any person not riding in or on a vehicle involved in a motor vehicle accident.

Personal Injury Accident:

A motor vehicle accident in which at least one person involved sustains bodily injuries not resulting in death.

Property Damage Accident:

A motor vehicle accident in which no person sustains bodily injury, but in which there is damage to any public property or damage to private property** including damage to the motor vehicle or its load.

Reportable Accident:

Any fatal or injury accident, or any accident in which there is any damage to public property or damage to private property in excess of a monetary value prescribed in law.**

Suspension:

Withdrawal of a driver's privilege to operate a motor vehicle for a prescribed period of time.

*Prior to January 1, 1982, fatal accident statistics included deaths attributed to accidental injuries up to one year after the accident. Since that date, only deaths from injuries within thirty days of the accident have been included.

** The minimum reportable level for property damage only accident rose from \$200 to \$400 on January 1, 1978 and rose again to \$700 on January 1, 1985.

8b.

ministry of
transportation
highway safety
publications**Driver's Handbooks**

The Drivers's Handbook
 Driver's Manual for Adult New Readers
 Motorcycle Driver's Manual
 School Bus Manual
 Truck and Bus Manual
 Recreational Vehicles Handbook
 The Bicyclist's Handbook

Driver Instruction

Roadworthy (textbook, Classroom Teacher's Manual,
 In-Car Teacher's Manual)

Drinking and Driving

Drinking and Driving- Smashed (Pamphlet)
 Three For the Road:
 1. Power Under Control
 2. The Alcohol You
 3. No Thanks I'm Driving (Film Trilogy)

Seat Belts and Child Restraints

What You Should Know About Seat Belts (Pamphlet)
 Seat Belt (Poster)
 Life Is Precious (Child Restraint Pamphlet, Poster)
 Child Restraint Manual (manual for Educators and Persons
 Organizing Rental Programs)
 Seat Belt-Fairy Car Father (Teacher's Handbook, Comic Book,
 Decals)
 The Human Collision (Film)
 Dice In a Box (Film)
 Life Is Precious - Buckle Them In (Film)
 Citizen Seat Belt (Film)

Motorcycles

Ontario Motorcycling Facts (Pamphlet)
 All Those Who Like To Ride ... (Drinking and Riding Poster)

School Vehicles

School Bus Stopping Law (Pamphlet, Poster)
 Driver Improvement Course for School Bus Drivers
 (Instructor's Manual, Test Sheets and Certificates)
 School Bus Drivers Have A Big Responsibility (Folder,
 Pamphlet) How We Ride (Colouring Book, Poster)
 Duties of Patrollers (Folder)
 Sam the Safety Duck - On the Buses (Pamphlet, Film, Decals)

Off-Road Vehicles and Motorized Snow Vehicles

1985 Ontario Off-Road Vehicle Statistics (Pamphlet)
 1985/86 Ontario Motorized Snow Vehicle Facts (Pamphlet)

Bicycles

Bicycle Safety Program (Instructor's Manual, and Supplies)
 Sam the Safety Duck - Bicycle Safety (Film)
 Bicycle Safety - Teens and Adults (Posters)

General

Good Driving Practices (Pamphlet)
 Guide for Disabled Drivers (Pamphlet)
 Pedestrians (Pamphlet, Poster)
 Senior Citizens (Pamphlet)
 Winter Driving Tips (Pamphlet)
 Sam the Safety Duck - On Winter Safety (Film)
 Power Under Control: Limits of Performance (Winter
 Driving Film)
 Seconds Can Save (Pamphlet)
 Daytime Driving Lights (Poster and Pamphlet)

NOTE: For copies of any of this material contact:

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seat belts & child restraints	<input type="checkbox"/>	other	<input type="text"/>		

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